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Table of Contents.....395
New Goods and Specialties.....309
Rubber Buyers' Directory.....XLVII

INDIA RUBBER WORLD

CAOUTCHOUC — HEVEA BRASILIENSIS — DICHOPSIS GUTTA — GUTTA-PERCHA

Edited by HENRY C. PEARSON—Offices, No. 150 Nassau Street, NEW YORK.

Vol. XXII. No. 5. AUGUST 1, 1900. 35 Cents a Copy. $3.00 Per Year.

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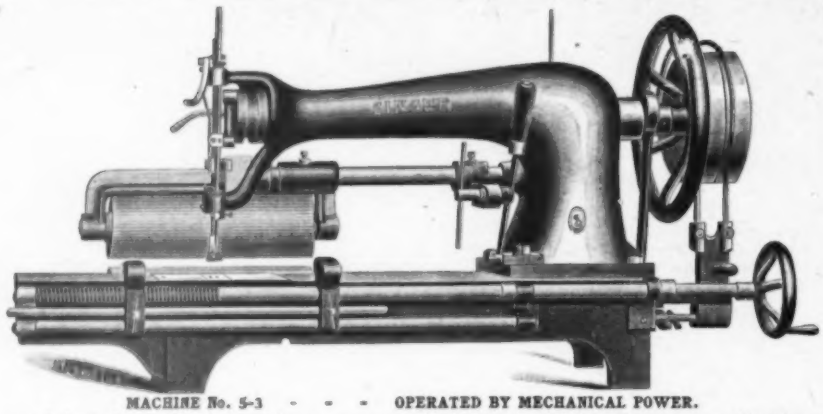

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TABLE OF CONTENTS

Editorial: PAGE.
India-rubber at Paris ... 295
A Text From the Carriage Trade ... 296
An Unnecessary Alarm ... 296
Minor Editorials ... 297

Eighteth Birthday of Mr. Converse ... 298
[With Portrait.]

India-Rubber at The Paris Exposition—I..*Our Special Correspondent.* 299
[The Rubber Exhibits at Paris Not Representative as a Whole. Summary of General Impressions. Prominence of the French Rubber Exhibits. The French Displays in Detail.]

Statistics of India-Rubber in Bolivia.....*Manuel Vicente Ballivian.* 302
[An Official Report to the Bolivian Government.]

Planting Para Rubber in the Straits Settlements ... 304

Notes on India-Rubber Solution ...*An English Contributor.* 305

Rubber Planting Companies ... 306

Leading Rubber Factories of Germany....*Our Berlin Correspondent.* 307
[Historical, Descriptive, and Statistical Summary. Varied Products of the Different Establishments, and the Outlet for their Sale.]

New Goods and Specialties in Rubber (*Illustrated*) ... 309
[A New Feature in Metal Shut Offs. The "Cole" Steam Vulcanizer. Cover for Carriage Lamps. Self Sealing Universal Stopper. The "Venus" Rubber Heel. A Steel Spring Rubber Tire. The Ralston Health Shoe. Minor Mention.]

Recent Rubber Patents [American and English] ... 311

Jottings by the Traveling Editor ... 313
[Rubber Shoe Heels. Housing of Employés. Texture in Sheeted Rubber. Substitutes Again. Bicycle Bugs.]

Miscellaneous:
Trade Opportunity in Norway ...*C. E. Sontum & Co.* 297
Cost of Planting Rubber ...*The Indiana Rubber Co.* 297
Some Wants of the Rubber Trade ... 297
American Rubber Goods Exports ... 301
The Largest American Merchants ... 301
Cause of German Industrial Success ...*Durand Woodman.* 303
A Discouraged Inventor ... 305
Rubber and Ramie ... 306
Remoteness of the Rubber Country ... 310
Extracting Rubber from Young Plants ... 311
Reclaiming Rubber in England ...*W. M. C.* 314
Literature of India-rubber ... 314

News of the American Rubber Trade ... 315

Review of the Crude Rubber Market ... 319

Statistics of the Rubber Movement ... 321

INDIA-RUBBER AT PARIS.

THE failure of the India-rubber industry to be represented at the Paris Exposition of 1900 on a scale commensurate with the growth of this industry in so many branches since the last great international exhibition, is attributable to several different causes. In the first place, there really is not so much in the way of novelty in the manufacture of rubber goods. There might be an exhibition of larger machinery belts, or the application of hard rubber to more uses, or rubber toys in greater variety than at any former period—but neither the ordinary vulcanized India-rubber nor the material known abroad as vulcanite is any longer new. A large belt differs from a small one only in the matter of degree, and so with advances in the manufacture of rubber goods in many other lines. But in the matter of machine tools, electrical applications, and in fact the whole world of mechanical development, there have been developed novelties so distinct that in any particular branch the exhibitor at Paris may safely count upon his product reaching the eye of interested persons to whom it is practically, if not absolutely, new. Such considerations have had no little weight with rubber manufacturers both in America and in Europe. As the manager of a great rubber works in Germany said to the writer of this article: "Why should we exhibit our goods again at Paris? They have been shown at all the great exhibitions, where we have been liberally rewarded with honors, and at the last Paris exhibition we were on the jury of awards. We can do nothing more. If we had something really new, it would be different."

A second consideration has been one of expense. There are lines of industry, say in the manufacture of high class machinery, where single sales may be expected to amount to more than the whole export trade of a good sized rubber factory in a year, and in such cases money may be expended liberally in such an exposition as that in Paris, in the hope of an early return of the amounts thus invested in advertising. But the trade benefit from exhibiting small rubber articles, the transactions in which in no branch are often large, is not always directly traceable, even when benefits are believed to exist, and this is another fact which has dissuaded rubber men from making exhibits at Paris this year.

There is still another consideration. There are yet people in the rubber industry who believe in guarding, in some sense or another, the details of their business. They believe that any particular superiority of their goods is due to certain trade secrets, which might be revealed in a great exposition closely watched by their rivals. Or they may feel confident of effecting sales through various distributing channels to consumers of such goods as they make, without exciting the curiosity or interest of rivals as would be done by making themselves prominent in a great exhibition. Here an American manufacturer will be quoted. "The rubber manufacturers of the whole world," said he, "are free to learn as much about our trade as they may be able to do by any ordinary means of investigation, but we do not propose to spend a great deal of

money to place on exhibition at Paris all the details of our work, to be watched and studied all summer by our competitors more closely than by any possible buyers."

It may be said, further, that India-rubber figures less prominently at Paris this year by reason of the classification adopted of placing vehicle tires on the wheels of vehicles, rubber electrical devices in connection with the work to be performed by them, and so on, instead of grouping everything made of rubber in one single department.

These various reasons for the abstinence of the rubber manufacturers of most countries from exhibiting at Paris have not been outlined here with a view to passing an opinion upon their soundness or lack of it, these being matters in regard to which those most interested are entitled to their own opinion. It remains, however, a matter for regret that in so important a demonstration of industrial progress as the world has seen at Paris this summer, there should not be a fuller showing of what has been done in the rubber industry, with each nation represented by its fair share. France is well represented in rubber, as was to have been expected—for patriotic reasons, if for no other—and the result is most creditable to that nation. The two other nations which share whatever credit may attach to the rubber section there are Italy and Russia, neither of which figures in the lay mind to an important extent in connection with the production of rubber goods. The whole world, outside of the rubber manufacturing countries, is now entering to an important extent upon the consumption of rubber wares, and who can say how much Russia and Italy may not profit, for years to come, from the fact that their exhibits of such goods overshadowed all rivals at Paris in 1900?

A TEXT FROM THE CARRIAGE TRADE.

SOME chance remarks by a recent visitor to THE INDIA RUBBER WORLD office from Mexico seem appropriate as a text for an editorial. He stated that when he first engaged in the sale of fine carriages in that country, several years ago, rubber tires were not thought of in his business. Now, however, rubber tires are demanded by all the better class of his customers, and he feels that the same thing is becoming true wherever vehicles of the class which he is selling are in demand. This fact alone would be of interest and importance to rubber manufacturers, as indicating a growing demand for rubber, with its attendant influence upon the price of this commodity. But what is more important is the fact that almost every other product and application of India rubber is likewise coming into demand wherever our civilization has found a foothold. Wherever modern machinery goes there is demand for belting; the telegraph and telephone are extending everywhere, with a certain demand for rubber; and medical and surgical science require rubber specialties in the heart of Africa as well as in the heart of New York or London. The Klondike gold region was no sooner opened than rubber boots began to be quoted among the articles of merchandise in demand there, even if they did cost the miners $20 a pair, and no sooner do American interests touch at Cape Nome, than our government orders a rubber insulated cable to connect us with that new point of interest.

The fact is that, sooner or later, the whole world will be tending toward certain standards of living, and those standards the best. Distant peoples do not need to change their religions or their costumes or their ideas of government in order to recognize the advantages of railways and steel ships and steam engines and the telegraph and a whole lot of other things, the use of which has been confined until lately to Europe and North America. And in the train of these more significant innovations must follow a thousand and one smaller articles of convenience and comfort and luxury, including many of which India-rubber must be a component part. Already some rubber goods enter into the import figures of every nation or tribe in the world that does any import business, and the volume is likely to become larger in every instance rather than become smaller.

The interest of every rubber manufacturing country in this new tendency is manifest. The growth of the Mexican demand for rubber vehicle tires means a higher cost of rubber shoes, and every new rubber cable prevents a decline in the cost of nursing bottles—unless there should be an increase in the production of the raw material to a greater extent than now appears probable. Aside from this general consideration, is the interest which the progressive rubber manufacturers of every country in which the industry now exists naturally will feel in securing to their own countries a fair share in supplying the growing outside demand.

AN UNNECESSARY ALARM.

OUR neighbor, the New York *Journal of Commerce*, in some editorial comments on the contents of THE INDIA RUBBER WORLD, to which space is given on another page of this issue, somewhat misses the point which our readers are expected to see. The editor of the *Journal* notices, first, that we print a good deal of matter on the subject of rubber cultivation. Secondly, he sees a possible warning against going very far into this new business for the reason that, in a single issue of THE INDIA RUBBER WORLD, lately appeared "accounts of three chemical substitutes for rubber, all of some commercial value now and with considerable possibilities before them." Evidently it is not wise to invest millions of money in rubber plantations if new materials are going to be brought out by chemists which will diminish the demand for their products, or at least tend to lower the price.

Now, we do not claim to know how soon the production of India-rubber under cultivation is going to prove profitable. No more do we claim to know how soon a true substitute for India-rubber may be produced. But the editor of the *Journal*, if he had read more carefully, might have noticed that none of the three substances to which he refers were described as substitutes for India rubber in any proper sense. Only one of the substances can be bought in any market as yet; one has merely become the subject

of a patent; and the third remains in the purely experimental stage. In this sense the rubber industry long has been acquainted with "substitutes;" but as for substances of such a nature as to dampen the ardor of anybody making a business of seeking new sources of native rubber supplies, the trade yet has to learn of their existence.

THE NEW CENSUS OF THE UNITED STATES will, without doubt, reveal a degree of industrial development and general growth of the nation during the past ten years such as has not been seen before either in this or in any other country. Not least in the general showing will be the rate of development in the India-rubber industry, but what is of even more interest is the fact that every indication points to the growth of this industry being long continued. Not that every year will show such an advance as was made last year, for instance, over the year preceding, but taking ten years together it will not be surprising if the rubber business makes as great an advance in the decade just begun as in any that have gone before. The interest and value of the forthcoming census figures will be enhanced by the fact that their publication is assured at a much earlier date than usual.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We would suggest that a catalogued list of articles into the composition of which India-rubber enters wholly or in part would be of much interest to your readers. H. W. B.

Dos Rios, Mexico, July 5, 1900.

WE have no doubt of it. We should like to possess such a list ourselves. One trouble about compiling such a list—to say nothing of the expense—is that during the time which would be required for printing the hundreds of pages it would comprise, so many new uses of rubber would be discovered as to render the book incomplete before it could reach our subscribers. There is scarcely a branch of manufacture nowadays in which some use of rubber is not made, either in the processes employed or in the products. Very many uses of rubber, however, are of an auxiliary nature, as in the case of air brake hose, which, while indispensable in modern railway practice, yet represents but a small part of the cost of equipping cars with the air brake system. As for the more important articles made wholly or chiefly of India-rubber, however, a pretty full list appears in the advertising pages of THE INDIA RUBBER WORLD.

CORRECTION.—In our last issue, in Mr. McClurg's article on "The Manufacture of Rubber Belting," the statement occurred: "the duck will come out with a smooth, even coat of friction which should weigh from ⅓ or ⅔ pounds to 2 pounds per running yard of duck, according to the quality of the compound." What the author wrote was "from 1⅔ to 2 pounds," and we are pleased to correct the error, which occurred in setting up the article.

TRADE OPPORTUNITY IN NORWAY.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We beg to inform you that our Mr. Sontum will be at the Paris Exposition about September 1, and will be glad to meet American manufacturers and exporters who desire a market in the Scandinavian countries. His address in Paris will be in care of the Norwegian and Swedish consulate, in Paris, Yours very truly, C. E. SONTUM & CO.

Christiania, Norway, July 10, 1900.

COST OF PLANTING RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your issue of July 1, under the heading of "An Experiment in Costa Rica," you state that "nowhere exist, to our knowledge, data to justify any particular calculation of the cost of planting and bringing to a productive age rubber trees. It might be more or less than $40 per acre." I will give you figures from actual experience. Planting trees fifteen feet apart each way, or 196 to the acre, the cost of planting would be, per acre:

Underbrushing land	$2.
Thinning out timber	4.
Transplanting	2.
Cost of plants from nursery	1.
Total	$9.

To bring the trees to a productive age, viz., eight years old, all that will be required is to keep out the undergrowth. To this, I think, all who understand anything of the nature of the growth of rubber will agree. This cleaning will not be as much work as the first underbrushing, as the growth will not be as heavy as at first. But, allowing it to cost the same as the first underbrushing, or $2 per acre, there will be one cleaning the first year, six months after planting; and after that, two cleanings a year for four years, then one cleaning per year for two years, a total of seven years, bringing the trees to their eighth year, when there will be a product of one to three pounds of rubber per tree, from which expenses can be paid.

The total cost of planting and bringing trees to production is, per acre:

Planting	$ 9.
First year, one cleaning	2.
Second year, two cleanings	4.
Third year, two cleanings	4.
Fourth year, two cleanings	4.
Fifth year, two cleanings	4.
Sixth year, one cleaning	2.
Seventh year, one cleaning	2.
Total for planting and bringing to production	$31.

My reason for cleaning but once the sixth and seventh years is, that the trees are so large that the light undergrowth will have no effect, if the cleaning is done once a year. Believing that this will be of value to you with reference to the cost of producing rubber, I remain, Yours very truly,

ASSISTANT MANAGER, THE INDIANA RUBBER CO.

Goshen, Ind., July 21, 1900.

SOME WANTS OF THE RUBBER TRADE.

[117] A LETTER from London reads: "We are large and frequent buyers of plumbago sheeting and steam packings, and we think that perhaps you may be able to put us in communication with manufacturers in the United States, who would be able to send us samples with lowest quotations on these goods."

[118] A dealer in rubber goods in Paris, who represents in France a leading American rubber shoe factory, would like to hear from manufacturers in the United States of solid rubber tires for vehicles.

[119] A bicycle and sundries company in New Orleans write to say that they desire information in regard to making rubber cements, and especially tire cements.

SOME of our readers may find matters of business interest to them in the department headed "Publishers' Page."

EIGHTIETH BIRTHDAY OF MR. CONVERSE.

THIS issue of THE INDIA RUBBER WORLD goes to press too early to present the details of the eightieth birthday anniversary of the Hon. Elisha Slade Converse, at his home in Malden, Mass. The celebration was wholly informal, and was planned largely by Mr. Frederick T. Ryder, of the Boston Rubber Shoe Co., who, in advance, sent out some 300 letters of this character:

DEAR MR. ———:

Mr. E. S. Converse will reach his eightieth birthday on Saturday, July 28, 1900, and will pass the day at his home, No. 2 Main street, Malden, with his family. No formal observance of the occasion will be made, but it has occurred to the writer that Mr. Converse, in a long and useful life, has endeared himself to many people, and I thought some of his many friends would regret to see his eightieth birthday pass without an opportunity of making a personal call, or writing him a few lines on that day.

Very truly yours,

FREDERICK T. RYDER,
101 Milk street, Boston, Mass.,
July 25, 1900.

HON. E. S. CONVERSE.

Among those invited were the Hon. John D. Long, secretary of the navy, an old friend of Mr. Converse; also, the governor and lieutenant governor of Massachusetts. There were very many callers at the house, and of course all the family connection were present, and all the old employés of the company whose affairs Mr. Converse has managed with such marked success. From absent friends came a great number of messages of kindly congratulation, by mail, telegraph, and the cables. Following is a copy of a communication addressed to Mr. Converse by the New England Rubber Club:

HON. E. S. CONVERSE, Malden, Mass.:

Dear Sir: The New England Rubber Club, voicing the wish of one hundred members of the rubber trade, extend to you their warmest congratulations on the occasion of your eightieth birthday.

For years you have occupied a position in our trade that has challenged our constant appreciation and respect. May to-day's spoken and written wishes of your hosts of friends find fruition in a long and happy future. Very truly yours,

HENRY C. PEARSON,
THOMAS J. SKINNER,
WM. J. CABLE,
} Committee.

Boston, July 28, 1900.

Mr. E. L. Corning, a lifelong friend of Mr. Converse, and a shareholder in the Boston Rubber Shoe Co., sent a remembrance in the shape of 80 Jacqueminot roses. A collation was served to callers at the house.

The story of the business career of Elisha S. Converse comprises the history of the Boston Rubber Shoe Co., which, from a small beginning, at Malden, Mass., in 1853, under the guidance of Mr. Converse, has become the largest concern in the world manufacturing rubber shoes, and is exceeded in size by scarcely any rubber factory in any branch of the industry. The president of the company for the greater part of its history was an older brother, the late James W. Converse, who died in 1894 at the age of 86, but almost from the beginning he did not take an active interest in the company's affairs, his position there being an advisory one. It was Elisha S. Converse, who during those years bore the title of treasurer, who was to be found daily at the Boston offices of the company, who visited regularly the two factories out of town, and who kept in touch with buying, selling, manufacturing, and financiering.

But Mr. Converse's interests have not been confined alone to matters of business. In the growth of the city of Malden, where his factories were located, he ever took a deep interest. In 1883 he advocated the incorporation of Malden as a city, and, in spite of business cares, consented to become the first mayor. From the beginning the growth of the place has been continuous. Mr. Converse has used his wealth freely for the benefit of his fellow citizens, as shown in the gift to the city of a public library and a park, besides liberal contributions to the city hospital, old people's home, and the First Baptist church, not to mention many Boston charities. His kindly character has been shown also by the interest which he has taken in the welfare of his employés. Mr. Converse has retained to a surprising degree the energy and vigor which made his success in life possible, while the number of his friends is limited only by the extent of his acquaintance. He has been fortunate, too, in having spared to him the members of his family circle.

THE tendency of rubber lands in Brazil to come under private ownership and control is illustrated by the granting to a Brazilian citizen—Manoel Floriano Correa de Bulto—of a valuable concession near Manáos. The United States consul at Para reports: "The property consists of several thousand acres of rubber and cocoa land, including immense belts situated on the banks of the rio Negro, rio Japura, and rio Branco." A copy of the terms of agreement, in Portuguese, has been filed in the bureau of foreign commerce, in Washington. The grant has been criticized by the *Jornal do Commercio* of Manáos, as an alienation of sovereign rights.

INDIA-RUBBER AT THE PARIS EXPOSITION.

Special Correspondence of The India Rubber World.

FIRST LETTER.

The Rubber Exhibits at Paris not Representative of the Industry as a Whole—Summary of General Impressions—Prominence of the French Rubber Exhibits—The French Dsiplays in Detail.

CONTRARY to what was expected a year or two ago, the India-rubber exhibits of Great Britain and the United States at Paris are on a very insignificant scale. Not that Great Britain and America stand alone as regards the rubber manufacture, for Germany is just as remiss, none of the important rubber firms being represented. The French themselves are well to the fore, and have a large number of exhibits representing the manufacture very thoroughly, though it may be added that, with regard to a certain class of surgical goods which need not be further particularized, no examples are shown—a state of affairs quite opposite to that which prevailed at the Berlin exhibition of 1896. Whatever the cause, it is possible to compliment the French this year on the way in which the surgical goods exposed to the public gaze have been selected.

It must be confessed that the scattering of the rubber exhibits, up and down the show, under various headings, is rather trying to those who have but little time to devote to rubber. We may be looking at the arrangement—or lack of arrangement—from a selfish standpoint, but from the specialists' point of view, the grouping of industries which prevails at the present exhibition is certainly not so convenient as was the case in 1889, when all the rubber goods were to be found together. To-day we have rubber in the Esplanade des Invalides and in the Champ de Mars—rubber under the head of tissues, the chemical industry, electricity, automobiles, etc., and no one connected with any particular part of the grounds seems to know anything about the disposition of goods elsewhere. Of course the fact is not to be ignored that as rubber enters only partially into so many classes of goods, it is difficult to classify it, and no doubt many exhibitors consider that they have a better chance of drawing attention to their specialties by showing them in some special application—say motor tires on the cars—than by heaping them up in a wall case. We refer to this point by way of rendering an apology to the exhibitors of any goods which may have been overlooked in this report. With the exception of the Russian exhibits and the cable companies, no means has existed for gleaning information at most of the stands, except by flattening the nose against the glass of the show cases, as the exhibits are generally without any attendants, and in only a limited number of cases are business cards available for visitors to take away. In the great majority of cases the goods bear descriptive labels, the exhibit of the Persan works of the English Silvertown company in the French rubber section being a prominent exception. This absence of attendants hardly seems to be good business. Of course the language difficulty is of some prominence, and it may be unreasonable to expect that an exhibitor should provide an attendant who is conversant not only with the goods exhibited but also with any strange language which may be forced upon him.

* * *

IT is of course well known that there has been much delay in the completion of the exhibition, and even by the middle of June several of the exhibits are but in an embryonic stage. With two or three exceptions, however, the rubber exhibits are completed. It is noticeable that while many firms have relied merely on the intrinsic merits of their goods to attract the attention of the passer by, others by some special exhibit, often of a fantastic nature, or by the adoption of artistic devices in the arrangement of their goods, have sought to engage the attention of the visitor. Thus, whereas some exhibits are merely duplications of the ordinary shop window, in others are to be seen such things as rubber boots six feet high, life size statues of rubber, and other novelties to catch the eye. One of the most important cable exhibitors said that he had removed a portion of his exhibit which was especially intended to attract, as it acted as a magnet to draw a crowd, thus interfering with the convenience of visitors of a business turn of mind. While on this subject it may be said that the triumphal arch erected by Felten & Guilleaume, of Mülheim-am-Rhein, and made entirely of cable wires of different colors and diameters, has deservedly called forth much admiration. But since no insulated cables were used in its architecture, this firm's exhibit must be sought for among the engineering plant of Germany and not among the cable exhibits in the electricity section.

* * *

THERE is something rather monotonous about the rubber exhibits, especially in the French section of India-rubber and Gutta-percha; one sees so many cases exhibiting the same goods, not a few of the exhibitors being merchants and not manufacturers. The absence of the leading British firms cannot now be given as the reason for no cylindrical or rectangular blocks of rubber for fine sheet cutting being on view, though such goods would no doubt have tended to attract the attention of visitors in a greater degree than the ordinary articles of commercial and domestic use seem to do. In fact, with few exceptions, the French rubber exhibits, numerous and varied though they are, appear to attract singularly little attention, though this remark, applying only to the time which we spent in this section, must not of course be read too literally, but it has some bearing upon the vexed question as to whether participating in an exhibition where the visitor is confronted with the products of the whole world in bewildering array, is really to the monetary advantage of the exhibitor. However, if a firm does make up its mind to exhibit, it seems from our point of view that it should at least make a show commensurate with its own position and importance, and this is where some firms seem to have failed. Thus to mention but two names, the well known Silvertown company, of England, and the Safety Insulated Wire and Cable Co., of New York, one would imagine, from the poor show made, that these firms were of third rate importance compared with Pirelli & Co., of Milan, or the Société Industrielle des Téléphones, of France, whose exhibits are extensive and of special interest and are, moreover, in charge of experts capable of giving technical explanations.

* * *

THERE is a very good show of vulcanite, and though the German manufacturers are absent, it is noticeable how much to the fore the French are in this branch—*caoutchouc durci*, as they call it—to say nothing of Russia, Italy, and Belgium. Many of the articles on view could not, we imagine, be obtained

in England; or at any rate they would not have the same finish. Presumably there is a demand for vulcanite pumps in the chemical manufacture, as these are decidedly prominent, as also are other vulcanite goods for purposes quite distinct from the electrical industry. Gutta-percha is to be seen in most of the forms in which it is known to the public, except the golf ball, which is conspicuous by its absence and which, according to information received, is not manufactured in France, albeit the game is now rapidly progressing in favor at the fashionable watering places. With regard to the show of crude India-rubber and the circumstances attending its gathering, there is nothing striking on view, if we except the forest scene in the Russian pavilion of rubber, to be referred to later, and the block of native Pará rubber, weighing 300 kilograms, shown by Hutchinson, of the Langlée works. A bottle of rubber milk is shown by Bergongman et Cie., but there is no tree on view such as that which Charles Macintosh & Co. brought over from Brazil for their exhibit at the Manchester exhibition of 1887. The museum of rubber goods in the French rubber section would prove of more interest, if it were possible to handle the exhibits, many of which were sent by M. Chapel, the author of the French work, "Le Caoutchouc et La Gutta-percha." It is impossible to gain much information of value through panes of glass, and the expert may be pardoned for wishing that he could have been in a position to examine more closely goods which were vulcanized close on fifty years ago. Anyhow, the fact that a number of such samples are in existence is not without importance, and if the vicissitudes which they have undergone are also known, this section of the rubber exhibits possesses an interest of an unique character to those who are more directly concerned with scientific deductions than with mere buying and selling. There do not seem to be any rubber substitutes or recovered rubbers on show, if we except the small exhibit of "rubberoid," located near the frivolities surrounding the Trocadéro. The point is only mentioned because in other exhibitions, notably in England, the substitute manufacturer has not hidden his light under a bushel.

* * *

IN the French India-rubber and Gutta-percha section, located on the Esplanade des Invalides, there are thirty-four exhibitors. The ancient Établissements Êdeline, which occupies the wall cases at the top of the stairs, shows a great variety of cycle and motor tires, of which the patent Êdeline-Gallus motor tire is prominent. Some of the pneumatic gallus cycle tires of gray rubber, with a central band of red and black mosaic, are novel and artistic, if not of greater merit than the plainer tires. Four vulcanite tables covered with various objects of the same material are shown, and there are numerous articles for mechanical use, a very large tube filled with smaller tubing and hose of all kinds, and resting longitudinally on two pieces of armored hose, being conspicuous. A. Maurel et fils, whose works are at Boulogne-sur-Seine, near Paris, have a good show of water bottles, sponge bags, bathing bonnets, air cushions, etc., and also several of their waterproof garments which have such a reputation, and which it is understood they are selling in England to some extent against all the local opposition. Some red cycle tires shown are non-sulphured—a feature which is anything but common as regards the red goods shown by other firms. François A. Grellon et Cie., of 43, Rue des Entrepreneurs, Paris, shows a varied assortment of tubing, red bands, self-closing tobacco pouches, hat forms, etc., and also a series of Gutta-percha tubing, pump fittings, buckets, funnels, etc., for chemical purposes, ebonite acid pumps and buckets, transmission belts of rubber and of Balata, rubber covered cylinders for paper works, and rolls of "feuille ridée pour peigneure," the exact use of which may be better known to others than it is to the writer. The firm of Hutchinson, of the Langlée works, and which is of American origin, is prominent with a good assortment of rubber footwear, tennis shoes, fishing stockings, and mechanical goods. Vulcanite is on view in such forms as wall brackets of artistic design, and there is also a model of a rubber boot. They show a selection of their "International" *sous-bras*, or dress shields, as they are more generally known to English speaking peoples. G. Bailly & Co., successors to Charles Guyot, have an exhibit consisting entirely of braces and garters, and here an attendant is at hand to distribute circulars. Hausman & Gaudard, whose works are at Ivry, show a few tires and cycle accessories, but their exhibits consist chiefly of surgical goods, baths of stout twill lined with corrugated red rubber, being especially noticeable. The small case which bears the name of E. Rujabel, of the Tilas (Seine), works, contains an assortment of tobacco pouches, rubber purses, and bags, mostly of a fanciful and grotesque character.

* * *

A. LAMARCHE, whose works are at 149, Rue de Javel, Paris has an attractive display of rubber toys of all sorts. Here are to be seen the presentments of animals of all kinds, reproduced with as much fidelity to nature as the circumstances of the business seem to demand. This class of our trade, it may be said, has always received more attention in France and Germany than in England or America. It is to be hoped that the French, who once made such an outcry against the Germans for using poisonous colors in these goods, are particular not to offend in this way themselves; if the very bright greens and blues which are to be seen are of an innocuous nature, then credit is due to them for having removed from the nursery a source of danger. Bapet & Hamel, of 34, Rue Piat, Paris, show some rolls of washed Pará and Ceará rubber, mechanical goods, tires, and a collection of elastic tissues. A. Passelac, whose works are at St. Ouen (Seine), shows tires, mats, etc., though the collection of vulcanite *tuyaux pour acides* is what attracted our attention the most. In the next exhibit, that of A. Laurent, whose works are situated at 143, Rue Croix-Nivert, Paris, rubber balloons are prominent. This firm has houses at London and Leicester and, by the nature of the goods, it seems reasonable to suppose that some of the objects exhibited are of English origin. The "dying boar" is to be seen (though it is not labelled thus as in England), as also a jointed balloon representing Chamberlain and Krüger, and bearing the inscription, "Which will win?" The next exhibit is that of F. Cassasa fils et Cie., of the Pantin (Seine) works. The goods shown include vulcanite in various forms, fire hose, asbestos packings, hot water bottles, and rubber gloves. Duquesne & Doches, of the Malakoff (Seine) works, show much the same goods, the "dying boar" being again prominent. With regard to articles entitled *dernières créations*, and bearing such titles as the "Thistle best Highland bag-pipe," the goods themselves may have been of English make, or the designation may have been borrowed. This mention of English nomenclature may also be extended to the adjoining exhibit—that of Lerenard, of 90, Rue Déterville à Alfortville (Seine), where among the mechanical goods shown we notice "Carde Tuck." The English house of Tuck & Co. have long been noted for their steam packings, and the use of the name seems to be becoming rather common on the continent, to judge by what we saw at the Leipzig exhibition in 1897. A very fine *tuyau d'aspiration*, 680 mm. diameter, is the most striking object shown by this firm.

* * *

SPACE will not allow of our dwelling on the surgical goods exhibited by Bagnier & Burnet, whose works are at 75,

Route de Choisy Ivry (Seine), and by J. J. Schoenfeld, of the Pantin works, and we perforce pass on to say that Falconnet, Perodeaud et Cie., of Choisy-le-Roi, had, in addition to rubber goods, a striking display of Gutta-percha in all forms for the chemical industry. One of the central floor cases was occupied by Bergongman et Cie., who show mechanical goods, motor tires being much in evidence. The works are situated at Clermont-Ferrand. Michel Jackson à Halluin has a sort of triumphal arch decorated with tires and mechanical goods, contiguous to which is placed a rubber covered statue of a man with a glass in his hand, and from the affixed inscription it appears that the health of the pneumatic Michelin is being drunk, the firm of Michelin et Cie. being well known in the motor tire trade. Fayaud et Cie. have an attractive exhibit of toys, *sous-bras*, bottle-tubing, self-closing red pouches, etc., and, what proves attractive to the visitor, is a loom in operation producing tissues for braces, garters, etc., the only instance of practical work which we noticed in the rubber departments of the exhibition. Guilleaume Aine, of 51, Rue du Temple, Paris, confine their exhibits to raw rubber cut sheet and *sous-bras*, while F. Berguerand, who occupies the adjoining wall case, and whose business address is 72, Rue des Archives, shows mechanical goods only, as does A. Thomas, of Ivry (Seine), and Rivelois and Fagnet, of the Rombaix (Nord) works. Edmund Deitz, of Rue d'Aboukir, Paris, shows tires, *sous-bras*, horseshoe pads and waterproof clothing. The next two firms on our list—S. Chamanski fils, of 6, Place des Victoires, Paris, and H. Egger et Cie., of 10, Rue de la Vrillière—have some superior looking waterproof garments and also carriage rugs, in great variety. The case which bears the name of J. de Pontouse, of Rue St. Regis, Marseilles, is filled with mechanical goods, among which we do not see anything novel. Torrilhon et Cie., of the Clermont-Ferrand works, have a large exhibit, including waterproof clothing, mechanical goods, vulcanite acid tubes, and tins of rubber solution. Rubber footwear and army horse cloths are also to be seen. Rolls of washed Pará, Madagascar, and "Soudan" rubber are among the other items shown in this attractive case. G. Cattaert, of 12, Rue Albony, Paris, shows rolls of tissues for garters, etc., but no finished goods, while J. Laflèche et fils, whose works are at 168, Boulevard de Charonne, shows similar tissues in silk, as well as finished goods. These last two exhibits, however, are somewhat overshadowed by the display made by Monilban & Chevreau, whose works are at Paris and Quevanvilles (Somme). Here are to be seen *sous-bras* in great variety, covered and uncovered and labelled impermeable and without odor. Red bands, life belts, elastic stockings, garters, and braces were to be seen, as well as a model of a weaving frame. Besides the finished goods, we noticed samples of *feuille Française* (the *feuille Anglaise* so well known in the continental rubber trade not appearing in the exhibition), non vulcanized as well as striped vulcanized sheet in different colors.

THE Palmer Tyre, Limited, of Birmingham, England, in view of the amicable termination of the litigation in which they were engaged recently with The Dunlop Pneumatic Tyre Co., Limited [referred to in the last INDIA RUBBER WORLD], have found available for dividends certain funds reserved for possible emergencies, on account of which their dividends will amount to 40 per cent.—the same as for the preceding business year.

THE vehicle tire manufactured by The Calumet Tire Rubber Co. (Chicago, Ill.) and described in THE INDIA RUBBER WORLD, of July 1, has been patented in Great Britain.

AMERICAN RUBBER GOODS EXPORTS.

RETURNS have now come to hand of exports of rubber goods from the United States for eleven months of the last fiscal year, the values being as follows:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July, 1899....	$51,535	$22,580	$ 99,918	$174,033
August	59,069	43,378	102,264	204,711
September....	42,858	34,233	122,959	200,050
October.....	52,643	34,894	106,223	193,760
November....	33,913	47,898	120,221	202,032
December ..	39,051	40,426	101,771	181,248
January, 1900.	40,137	30,452	94,886	165,475
February. ...	38,724	27,246	128,017	193,987
March	39,749	30,866	140,353	210,968
April	41,541	18,398	115,797	175,736
May.....	53,252	42,576	125,421	221,249
Total.	$492,472	$372,947	$1,257,830	$2,123,249

The exports of rubber goods of all kinds for the corresponding eleven months of 1898–99 reached a total value of only $1,591,980. The rate of increase is 33.4 per cent. The exports of rubber shoes during the eleven months amounted to 673,961 pairs, against 425,574 pairs in the first eleven months of the preceding fiscal year—an increase of 58.3 per cent.

THE LARGEST AMERICAN MERCHANTS.

THE consolidation of the export and import commission houses of Flint, Eddy & Co. and the American Trading Co., both of New York, under the name of the Flint-Eddy and American Trading Co., capital $4,000,000, means the formation of by far the largest merchandising house in the United States. The house of Flint, Eddy & Co. was formed in 1895 by the consolidation of Flint & Co. and Coombs, Crosby & Co., both prominently identified with the development of American commerce. The American Trading Co. was formed in 1890, by a reorganization of the American Clock and Brass Co. (Bristol, Conn), which began by exporting clocks to the far east, and built up a large export trade in these and other merchandise. The firms now combined did a business last year of $28,000,000. They are neither a transportation nor a banking firm, but confine their attention to buying and selling goods. They now have branch houses in San Francisco, London, Hamburg, Yokohama, Kobe, Shanghai, Hong Kong, Tientsin, Newchwang, Port Arthur, Vladivostock, Rio de Janeiro, Buenos Aires, Rosario, Valparaiso, Santiago de Chile. Lima, Guayaquil, and Havana. They are exclusive agents in the United States for Warner, Barnes & Co., of Manila, and leading houses in Mexico, Central and South America, Cuba, French and English West Indies, South Africa, Australia, and New Zealand. A preliminary announcement was that the officers probably would be: Ulysses D. Eddy, president; James R. Morse (late president of the American Trading Co.) and others, vice presidents; Henry F. Crosby, secretary; W. H, Stevens, treasurer. Charles R. Flint and Wallace B. Flint are also to be directors. The head offices will be at No. 30 Broad street, New York.

THE profits of the Russian-American India-Rubber Co., at St. Petersburg, for the last business year are reported at 2,941,906 rubles, against 3,945,222 rubles, in the year 1898–99. The dividend will be only 35 per cent., against the customary yearly dividend of 50 per cent.

STATISTICS OF INDIA-RUBBER IN BOLIVIA.

*By Manuel Vicente Ballivian.**

IN the years 1893-94 we had the pleasure of filling the position of sub delegate in the national delegation sent by the government of Bolivia to the northwest regions and the department of Beni. On returning from our expedition, in 1895, we presented to the government of the republic, among other works, our special report on the industry of extracting India-rubber, publishing the same under the title of "Report on the India-Rubber Industry in the Territories Dependent on the National Delegation and the Department of Beni." This monograph was honored by translation into both English and French, and was published in Europe. The said report contains the history of this industry in Bolivia, its development, and statistics in the zones which we visited.

Since that time new sources for the extraction of rubber have been discovered, the regulation of which, as well in the concession of rubber *estradas* as in the fixation of taxes, came so soon as the legislative bodies and the supreme government received the report of the national delegation.

The experience gained in the execution of legislative proscriptions for the regulation of these matters has called attention to certain errors, which it is necessary to correct. To this end, in the report cited, we pointed out the legal practice established in the states of Brazil which produce India-rubber. There, after various attempts analogous to those employed in Bolivia, a new land law was enacted, restricting the absorption of vast regions by single individuals or single companies. The value of the square meter was fixed at 10 reis, or about a half cent in our money. Each state sought, in the most legitimate manner, a source of taxation, and fixed the tax at 10 per cent. *ad valorem*, state tax, and 12 per cent. municipal tax, on the exportation of the product. By acts of the legislatures of the states of Pará and Amazonas, the value of India-rubber was calculated from the fluctuations of the crude rubber market in North America and Europe, for the collection of these taxes. At the present time the tax has been increased, we understand, to 26 per cent. *ad valorem*.

It is undeniable that the production of rubber in Bolivia requires special study, for the reason that the conditions are different in each region, on account of the difficulty or facility of reaching the market, and the abundance or scarcity of labor available for the extraction.

We have thought the foregoing pertinent to the report we now make relative to this output of our rich forests. The sources consulted for the formation of our tables are official in character; but where official information has not been sufficient, we have availed ourselves of private, but authoritative, investigators.

We shall now indicate what regions of our territory produce India-rubber, a raw produce the demand for which in manufacturing countries increases with the new inventions and applications required by the industries and necessities of the century in which we live. The producing regions may be classified naturally according to the points from which the rubber is exported.

First Region.—Because of its importance, the region of Acre occupies the first place, and in order to obtain the figures of total production shown in the general table for the republic (No. 1)†, we have been obliged to recur to private, but trustworthy, sources of information, such as Mr. Charles Satchell, ex-commissioner of national boundaries in the fixation of the boundary between our frontier and Brazil, in company with the chief of the Bolivian commission, Gen José Manuel Pando. The quantity of 2000 metric tons [4,409,200 pounds] annually is in complete accord with previous data communicated to us by the second of the gentlemen just named.

A few days ago we read with much pleasure the report presented to the secretary general of the government, by our ex-minister in Brazil and ex-national delegate in Acre and Purús, Mr. José Paravicini, a document in which much information is given with reference to this important region. It is shown here that the population of this zone is practically 10,000; the number of *barracas*‡ 100; and that the rate of taxation fixed on the export of India-rubber is 20 per cent. *ad valorem*, on an average price of 10,000 reis, or 5 bolivianos, on each kilogram. This being true, the revenue would amount to 2,000,000 bolivianos.§ Owing to the rebellion in Acre, we are obliged to give, in the above-mentioned table, the tax prescribed by law, namely, 16 centavos and 12 centavos respectively, for fine gum and *sernamby* [coarse].

Acre is the official port for the exports of this region, which include a part of the rubber gathered on the upper Tahuamanu, and it is situated 4½ miles from the boundary line marked by the Bolivian-Brazilian commission. This line, however, has been disputed by engineer Cunha Gomez, but even if the present boundary should not prove exact, the one proposed by him is drawn at only 1600 meters distant, so that this port remains in territory unquestionably Bolivian.

Second Region.—This is comprised in the zone watered by the rivers Madidi, Alto Beni, Bajo Beni, Orton, Manuripi, Tahuaman, and other lesser streams—all being rich in *seringales*. This region includes the territory known as the national delegations of Madre de Dios, Acre, and Purús, excepting that part which finds a natural and more convenient outlet in the Acre river. The export port of the second zone is Villa Bella, at which is situated a national custom house. This town is situated on the high land at the confluence of the Beni and Mamoré rivers. The production indicated in the general table has been furnished to us from the official documents of the custom house mentioned.

Third Region.—This zone comprises the forests which produce rubber in the department of La Paz, or, the cantons of Challana, Songo, Mapiri, Huanay, Goroico, and a part of the province of Campolicán. The outlets for this region are Puerto Perez on Lake Titicaca, and Punto and Mollendo in Peru.

The special table given comprises the six years 1893–1898 inclusive, and the first three months of 1899, and the information is from Luis Ernest's agency in Puerto Perez. The table does not specify the quantity of fine gum and *sernamby*, the qualities upon which fall the export duties of 16 and 12 centavos, respectively.

* An official report by the Director de la Oficina Nacional de Inmigracion, Estadistica y Propaganda Geografica, La Paz. Translated for THE INDIA RUBBER WORLD by Charles A. Brockaway.

† There is not space here for the tables referred to, but they will be summarized at the end of this paper.—THE EDITOR.

‡ Barraca is a kind of shanty erected for the shelter of the laborers.—TRANSLATOR.

§ The *Boliviano*, divided into 100 *centavos*, on April 1, 1900, was worth 43.6 cents, United States currency.—THE EDITOR.

Fourth Region.—The fourth region is situated in the north and east of the department of Santa Cruz de la Sierra, formed by the province of Velasco, bordering on the Brazilian state of Matto Grosso. It is in this region that the rubber is gathered along the Paraguá and Verde rivers, at the most remote points, and where labor is hardest to obtain, and this is the reason for the difference in duties imposed, they being 12 and 6 centavos, respectively for fine gum and *sernamby*.*

Owing to the difficulty of learning the prevailing price for fine gum and *sernamby* in the above regions we have used the figures prevailing in the La Paz market.

The province of Cochabamba possesses the rubber tree in the Yuracarés region; and, judging from the important discoveries recently made there, followed by petitions for concessions of *estradas*, it is probable that this region will become no less in importance as a rubber region than La Paz, for the conditions of soil and climate are identical.

With public peace assured, and legislation which consults the best conditions for fostering this industry, we do not doubt that Bolivia will become one of the principal regions for the production of this important article of commerce. After the tables which immediately follow will be found a table of quotations for this and the London market, as well as other information with reference to the movement of India-rubber in the markets of Manáos and Pará.

La Paz, November, 1899.

EXPORTS OF RUBBER FROM BOLIVIA IN 1898.

Customs.	Fine.	Sernamby.	Caucho.	Total.
Acre .....kilos.	2,000,000	.....	....	2,000,000
Villa Bella.....	757,444	105,813	1,989	865,246
Puerto Perez... .	256,542	.....	....	256,542
Puerto Suarez.....	27,556	1,611	...	29,167
Total	3,041.542	107,424	1,989	3,150,955
Total value..	$13,223.596.00	$326,944 12	$6,053.00	$13,556,593.12

[The values are given in Bolivian silver currency]

EXPORTS FROM PUERTO PEREZ (VIA MOLLENDO) SINCE 1893.

1893 ... .13,051 kilos.		1896 . .....133,865 kilos.	
1894.... 37,994	"	1897..... 180,689	"
1895.....63,518	"	1898.....256,544	"
January–June, 1899 ...113,504 kilos.			

The remaining statistics appended to the report of Señor Ballivian relate to the local prices of Bolivian rubber at different dates.

*The Bureau of American Republics, under recent date, reported that the Bolivian export duties on India-rubber had been modified by a presidential decree. Henceforth an *ad valorem* duty of 8 per cent. will be charged on all rubber exported, except that from the Acre district, on which 15 per cent. will be charged. The former taxes of 10 and 16 centavos per kilogram, according to quality represented in 1896 an *ad valorem* duty of 7 per cent. on fine rubber and 6.57 per cent, on *sernamby*, or coarse.—THE EDITOR.

THE rubber movement from Bolivia will be facilitated by another steamer which has been placed on Lake Titicaca, which serves as a channel of transportation between Bolivia and Peru. The new steamer *Coya*, of 550 tons, was built at Dumbarton, Scotland, and transported to Mollendo, on the Pacific coast, whence it exported the grade of rubber known as "Mollendo." It was carried from the coast in twenty-two cars up the railway, along the steep slopes of the Andes, the lake side. Then it was put together, and the boilers and engines installed. The distance traversed by the steamer is 100 miles, the journey occupying about ten hours.

NOTICES have continued to arrive at Rio de Janeiro as to the intensity of the *secca* (drought) in Ceará, which, it was feared, would be more disastrous to the rubber interest than that of 1879.

CAUSE OF GERMAN INDUSTRIAL SUCCESS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: "I was much interested in the "sixth letter" on "The India-rubber Industry in Europe" which appeared in your issue of May 1.

After a year in Germany, during which time I visited a number of manufacturing establishments, I can fully agree with all that the above mentioned letter claims for the high estimation in which the managers of industrial concerns hold technical education, not only of the chemist, but of the mechanical engineer and others whose work is so important in designing and directing large works. The German mind, very generally, grasps the idea that nothing can come out of nothing. I have had young men only just graduated from their high schools tell me of their plans for fitting themselves for the future. It might be to go abroad as an agent in some foreign country, or to become the director of a works laboratory, or again as superintendent of a machine shop; but in every case it was the same spirit "If I expect to do these things I must work hard to learn all that can be learned, to make me competent."

The all too common idea in our own country, that "my father has been in the business for fifty years and what he does is good enough for me" is not highly thought of. "Everything is progressing. We must progress by study and much work." An idea of being thorough, and that nothing good comes without hard work, seems to pervade the people to an extent which no one can realize without coming in contact with it.

As a consequence, "snap shot" results are not expected. The manufacturer who desires to improve his product plans a systematic campaign. If he has reason to believe that a chemist can bring about the improvements wanted, he knows that it cannot be done by magic, but will require familiarity with his processes as they are, in order to locate the weak points and plan the investigation which will develop them to the desired standard. He knows that a stray effort here and there, by this one or that one, will only be an idle expense and waste of time and money.

It is not alone the "higher standard of skill among the industrial classes," but it is also the more enlightened methods of making use of this skill, and, while the foreign manufacturer often seems slow in his methods, it is because he looks forward, not merely to next season's novelties, but to permanent improvement and expansion, year by year. I would not be understood as underrating the wonderful progress in our own country in all lines of manufacture, or the business talent which has guided it, but we can nevertheless learn valuable lessons from our friends across the water; and, with increasing competition in all lines, closer calculation and a far seeing policy are forced upon us. DURAND WOODMAN.

New York, June 24, 1900.

IN a series of impressions gained in Europe, an American writes in *The Iron Age* (New York) as follows, confirming the view of our own correspondents:

"There are very few, if any, members of the larger English cutlery manufacturing firms who could name a price on a new pattern without consulting with their superintendents, and they, in turn, with their subordinates. A German manufacturer takes a pattern, whatever it may be, examines it carefully, takes paper and pencil, and proceeds to figure. In five minutes you have his price, at which he will sell you 1 or 1000 dozen. All this without consulting any one connected with his establishment, or even referring to a book. He is master of the situation."

PLANTING PARA RUBBER IN THE STRAITS SETTLEMENTS.

WE notice that Mr. E. V. Carey, a subscriber to THE INDIA RUBBER WORLD, residing at Klang, in Selangor, Malay Peninsula, and who is chairman of the United Planters' Association of the Federated Malay States, has written in the Singapore *Free Press* a suggestion that the planters of rubber in his country send a representative to Pará, "in order that when this country is ready to put its own rubber upon the market, we may be in full possession of all the most up-to-date methods of tapping, of obtaining the maximum output with the minimum of damage to the tree, and of curing our produce in such a manner that it will fetch as high a price as any in the markets of the world." He says further: "It has already been demonstrated that we can grow Pará rubber, that we can get a heavy yield, and that the quality of our produce is equal in value to the best Brazilian."

Mr. Carey, like his father, Arthur Carey, was formerly a planter in Ceylon. *The Tropical Agriculturist*, of Colombo, regards the expense of sending out a commissioner to Brazil as unnecessary, in view of what is known of Pará rubber.

* * *

IN the state of Selangor during 1898, no fewer than 389,500 Pará rubber trees were planted, and in 1899, the number planted reached 1,600,000. Previous to 1898 "a fair number" were planted. Mr. Carey estimates that at least 1,000,000 of the whole number will reach maturity, and yield an average of 1½ pounds of rubber per year. He estimates also as many more trees for the other Malay states.

A colonial office report from Singapore mentions that "an enterprising syndicate of Chinamen has begun to plant rubber largely" in Malacca—another of the Malay states, just south of Selangor.

A communication from the Perak government shows that a sale has been effected in London at 3*s.* 10*d.* of 327 pounds of cultivated Pará rubber from that state, and a sample of *ficus elastica* rubber, from planted trees, was valued at 3*s.* 6*d.*

A Colombo paper publishes an interview with a resident of the Malay states, who reports that "a wealthy Chinaman, with much enterprise, is going in for rubber cultivation on a large scale at Kotabharu, in the Kinta valley, which is about 30 miles from Taluk-anson. [Taluk-anson is on the Perak river, about 40 miles from the Malacca straits coast. This in the state of Perak, which is north of Selangor.—THE EDITOR.] He is opening out about 5000 acres, and has engaged a European manager to supervise the work. Other plantations for this product are also being opened in the Kinta valley; and large patches among the coffee, on the coffee estates, are to be seen planted with the new product. It is expected that satisfactory results will be obtained in rubber cultivation."

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A CORRESPONDENT of the *London and China Express* writes from Selangor: "Pará rubber cultivation has made a good deal of headway and should in time make a fair show in the list of exports. I am not altogether sure, however, that the indigenous 'getah rambong,' would not prove more profitable in the long run. If the price of its produce is not up to rubber, it is much more prolific in its yield, and as it is a native there is not the same difficulty about seed." This is a tree producing a low grade of Gutta-percha.

The *Tropical Agriculturist* notes the visit to Ceylon of W. S. Bennett, of England, formerly a planter in that colony, who retains property interests there. Mr. Bennett has invested something in rubber planting in the Straits, which he regards "a special home for rubber, considering all the indigenous gutta and rubber yielding trees in that region."

There has been registered in London the Morib Cocoanut Estates Syndicate, Limited, with £2500 capital, to acquire an estate in the district of Kuala Langat, Selangor, Malay Peninsula, and to carry on the business of cocoanut and rubber growers and merchants.

* * *

IN the annual report of the royal botanic gardens of Ceylon for 1900, the director, John C. Willis, says that "for those who have rubber plantations in bearing or of fair age, the prospect is good," but he apparently inclines to the view that the progress made in developing substitutes for rubber may lead to lower prices for this commodity. Mr. Willis regards the Pará and Central American rubbers (*Hevea* and *Castilloa* species) as best suited for cultivation in Ceylon. "Of these, the one which is better suited to the use of the machine methods of preparation of rubber, and which also seems to give the larger yield, is the *Castilloa*, but there is every prospect that the *Hevea* will also prove successful, especially in swampy, alluvial soil, the *Castilloa* needing better drained, sloping ground. Mr. Willis would not recommend either species as an exclusive cultivation, "but both may be recommended as adjuncts to tea or cocoa, for which they appear to do pretty well as shade."

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THE government of India has sanctioned the planting of 10,000 acres of Pará rubber trees on the Tenasserim coast of Lower Burma, which extends northward from the Malay peninsula, along the bay of Bengal, at a cost of 210,000 rupees (about $65,625). It is expected that at the end of twelve years the plantation will have repaid its cost, and that a profit will be afforded thereafter.

KING LEOPOLD AND THE RUBBER TRADE.

THE King of the Belgians, Leopold III, has commonly been reported as being largely interested in the great rubber exploiting companies organized in his country to trade in the Congo Free State, which practically is under Belgian control. He has been criticized, therefore, for permitting the atrocities alleged to have been committed by employés or agents of these companies upon the native rubber gatherers. During a recent debate in the chamber of deputies at Brussels, the Socialist leader, M. Van der Velde, violently attacked the present régime, asserting that the king himself was the chief trafficker in Congo rubber and ivory. The minister of foreign affairs, M. de Faueveau, replying, denied that the state had anything to do with the appointment of the agents of the Belgian company, and he affirmed that King Leopold possessed no share in any rubber company in the Congo Free State, adding that the government was determined to repress any excesses in its territory. In a work entitled "En Congolie," and published in Brussels early in 1898, Senator Edmond Picard referred to King Leopold as "the greatest Caoutchouc and ivory merchant in the world," and contended that the king should give up his private interest in the Congo trade to the state—as a measure calculated to produce most satisfactory results to the Belgian treasury.

NOTES ON INDIA-RUBBER SOLUTION.

BY AN ENGLISH CONTRIBUTOR.

ALTHOUGH the bulk of the India-rubber solution made is but an intermediate product of the waterpoof clothing and elastic thread manufacturer, yet a good deal of it is sent out into commerce for various purposes, and it may not be without interest to refer more or less in detail to one or two matters concerning its manufacture, transport, and application. To touch firstly on the important subject of the best medium to use as a solvent, there is no doubt that the bulk of opinion is in favor of coal tar solvent naphtha—the product that gives 90 per cent. of distillate at 160° C. In Great Britain petroleum benzine has never come into general use, though spasmodic efforts have been made to utilize it; in Germany, however, it has been largely used, but entirely from motives of economy, and not from any strong prejudice in its favor. It is noteworthy, moreover, that during last year, when the price of petroleum benzine was raised and that of coal tar benzine dropped so that there was practically no differences between the costs, coal tar benzine has almost ousted its former rival as a solvent for India-rubber. It seems rather surprising that the petroleum product should ever have been largely used, for not only does it not make such a good solution—as Dr. C. O. Weber has pointed out in one of his papers—but it is also in a marked degree more dangerous, from its greater volatility, from the insurance office point of view.

Since the trial of an important case a few years ago, where a steamship company sued an English rubber firm for large damages on account of a fire which broke out in the hold where a quantity of rubber solution was stored for transport, the railways and the local governing bodies of the various English towns have declared all rubber solutions to come under the "Petroleum act." There is no doubt that in the case referred to petroleum was the solvent used, and there does not seem to be any serious case of the sort which has occurred with coal tar naphtha, that is, during transport. The solution now sent by rail has to bear a ticket stating whether it flashes below 73° F. or below 120° F., a higher rate being payable for that of the lower flash point. Retailers are subject to certain regulations regarding the quantity to be kept and the arrangements for storage, these regulations being put into force with varying stringency by the different local authorities, though the danger to be apprehended is really slight where an ordinary amount of common sense is used to keep the stuff in closed vessels.

The strength of the solution as made by different firms and as supplied to different customers varies to a large extent; for some purposes it may contain 19 per cent. of rubber, while for others the rubber does not exceed 11 or 12 per cent. In the tenders sent out by the government laboratory at Woolwich it is stipulated for 18 or 19 per cent. of rubber, and any below 18 per cent. is rejected. The Woolwich authorites buy a good deal of this solution for special purposes and test its strength in a mechanical way, by sticking two pieces of strong canvas together with it and then observing by means of a recording instrument how much strain is required to pull the pieces of canvas apart. I don't know whether any such test is employed elsewhere, but there is a feeling among the contractors that unless it is carried out very carefully the results may easily be inaccurate. Turning to other uses for the solution a good deal is bought by tire manufacturers, who get their tubes and covers made at the rubber works. Neither these buyers nor the electrical firms who buy the solution in metal capsules require such a high content of rubber as does the war office. They generally take it containing about 14 per cent., and I have tested samples showing only 11 per cent. As a rule the solution is made of the best Pará rubber, but in cases where price is a great desideratum a mixture of Pará with cheaper brands of rubber is used. A good deal depends on the degree of mastication which the rubber has undergone, as well as its degree of hardness or softness with respect to the suitability of the solution for various purposes, and there are many little points to be attended to in the manufacture, according as the solution is required for this purpose or for that.

Last year quite a new use for this product arose in the calico printing trade in connection with the application of aluminium powder to dress fabrics. I don't know who suggested the process, but several works took it up for a time, although I understand it has now been abandoned because the rubber soon decayed and led to trouble. One large Lancashire firm who used it largely for a time bought the masticated rubber and made their own solution. It was a good deal of trouble working the process because fires were continually taking place, caused by electric sparks from the frictioned cloth. To minimize the danger from fire one large firm made a special fireproof room for carrying out the process, which of course represents so much money wasted, as the process is now defunct.

Turning again to the subject of the solvent used, there is a great demand for this to be as odorless as possible where the varnish is used in workrooms for making up tires or the seams of waterproof garments. Although I do not believe in the possibility of an "odorless" naphtha, such as has been advertised and sold, yet there is no doubt that a thorough purification of the solvent from carbon bisulphide and naphthalene does a good deal towards mitigating the smell and making the solusion less deleterious to the health of the workpeople in crowded rooms. The higher boiling solvent is usually preferred for the purposes just mentioned, because it does not dry up so quickly in the workroom, although it has the disadvantage of generally containing some naphthalene and of causing the goods in the case of waterproof textures to retain the smell of the naphtha for some time. As is well known, a good deal of rubber solution is sold for cycle tire repairs, being put up for this purpose in collapsible metal tubes which are also used for convenience sake by rubber cable repairers.

A DISCOURAGED INVENTOR.

THE INDIA RUBBER WORLD has received a letter from the inventor of a new article in rubber which appears to have merit, from which we quote the following, in regard to a difficulty which our correspondent has not been the first to experience. It is perplexing none the less:

"We have been so busy getting the rubber manufacturers to some kind of terms in prices and compounds that we have been obliged to refuse immediate orders. In fact, my brief experience in dealing with rubber people has led to the conclusion that they are all dealing with problems that are never solved. To illustrate, a business problem that perplexes me is: How can the manufacturers of the ——— place on the market their goods cheaper than we can get ours made at the factory, notwithstanding the fact that we only use from one-half to two-thirds of the compound to make a given size that they do? I would like to make a first class article, but I find that the market will not accept anything but the cheaper compounds, and we are now on the hunt of manufacturers who can make cheap goods for us."

NEW YORK reports a good demand for rubber fishing boots, the trade covering a wide area.

RUBBER PLANTING COMPANIES.

THE Mexican Coffee and Rubber Growers' Association (Philadelphia), noted lately in THE INDIA RUBBER WORLD as having been incorporated in Delaware to acquire the property and concessions of the Grijalva Land and Coffee Co., Limited, have elected William A. Mears president, William M. Hoagland vice president, and B. Gordon Bromley treasurer—all of Philadelphia. The Grijalva properties include 100,000 acres in the districts of Mescalapa and Pichucalco, in the state of Chiapas, Mexico; about 60 miles southwest of San Juan Bautista, capital of the state of Tabasco; and front for twelve miles on the Grijalva river, navigable by the company's steamboats to Frontera, on the gulf coast. The Grijalva company, succeeded by the new enterprise, was incorporated in Mexico City in 1897, with $600,000 (Mexican) capital. The president, Richard M. Gano, is on the board of the new company. The Association has opened an office at No. 135 Broadway, New York, for the sale of a portion of its lands, 6000 acres, designated as the Aztec plantation, having been selected for such sale.

=The Palma Real Co., with a paid up capital of $1,500,000, have been incorporated under the laws of West Virginia, to acquire 68,000 acres in the state of Vera Cruz, Mexico, to be devoted to the planting of India-rubber and other tropical products. The head offices are in Pittsburgh, Pa. The incorporators include a number of wealthy citizens of Pennsylvania, West Virginia, and Indiana. J. S. Robinson, Robinson, W. Va., is president; John D. Scott, Pittsburgh, secretary, and Charles A. Dale, of Indianapolis, general manager. The company's lands are located on the Tesechoacan river, an affluent of the large Papaloapan river, which empties into the Gulf of Mexico near Vera Cruz. The company are offering for public subscription $350,000 in 6 per cent. first mortgage gold bonds.

=The Nicaragua Rubber and Agricultural Co., incorporated in Delaware, September 26, with $250,000 capital, own 8105 acres of land in Nicaragua, purchased with a view to planting India-rubber and bananas or other fruits, on the Rio Coco, 80 miles inland from Cape Gracias. They offer to sell shares of stock, each to carry a certain amount of land planted with rubber and fruits, to be paid for in installments. The officers are: President, E. W. Perry, of Cape Gracias, who is also resident general manager; vice-president, S. B. Vrooman, importer of mahogany at Philadelphia; treasurer, A. C. Middleton, attorney at law, Philadelphia; secretary, H. A. Dygert, No. 419 Bourse, Philadelphia. The company issue a pamphlet on rubber cultivation, compiled from a variety of sources, and another on bananas.

=The Isthmus Plantation Association of Mexico has been organized at Milwaukee, Wis., for the development of the lands known as the Hacienda del Corte, on the isthmus of Tehuantepec. The estate comprises 10,000 acres, and it is reported that 200,000 coffee trees and 40,000 India-rubber (*Castilloa elastica*) trees have been planted. The officers of the company are: Benjamin M. Weil, president; A. E. Smith, vice president; C. G. Cox, secretary; Thomas E. Camp, treasurer. Their address is First National Bank building, Milwaukee.

=The Chiapas Rubber Plantation and Investment Co., described as an American corporation, is mentioned in a letter from the city of Mexico as owning 12,335 acres of fine rubber lands in the Rio Michal valley, in the state of Chiapas, and having planted more than 3000 acres in rubber.

=The government of Peru announces that concessions for rubber lands cannot be transferred without the *concessionaires* having obtained consent of the national authorities.

RUBBER AND RAMIE.

FROM THE NEW YORK JOURNAL OF COMMERCE.

MANY an honestly designed prospectus has been belied by the event, and the variable elements in agricultural production are so great that statements of cost are here more open to suspicion than in the case of manufacturing processes. The statements made by our farmers of the cost of producing cotton and grain are generally too high and are refuted by the increasing prosperity among the farmers. Less than five years ago there were published several statements of the cost of coffee production in Mexico and Brazil; they were prepared by persons in a position to know and seemed to be carefully and honestly prepared. They showed profits of 100 per cent. and over. But the price of coffee has gone down and the purchase of one of the largest coffee estates in Brazil by an English syndicate has been disastrous.

THE INDIA RUBBER WORLD has received the prospectus of a company that is going into the culture of rubber in Central America, with an invitation to point out any errors the prospectus contains. The cost of planting and bringing to production and marketing one acre of rubber trees is put down at $40, or for 10,000 acres, $400,000. It is not certain that this includes the interest on the investment during the seven years the investors will wait for a crop. At any rate, the editor says that it is not known what it costs to plant an acre of rubber trees and bring it to bearing; $40 is merely a guess. In the seventh year the prospectus estimates half a pound of gum per tree from a hundred trees per acre, or from ten thousand acres 500,000 pounds, worth as many dollars, leaving a clean profit of $100,000 above all the costs of the seven years, and thereafter the plantation is expected to produce half a million pounds a year, worth a dollar a pound, less costs of maintenance, assumed to be 25 cents a pound. A capital of $400,000, then, would pay 125 per cent. at the end of seven years and 94 per cent. per annum thereafter. This seems a little too good to be true. The editor remarks that $1 a pound is the price of fine Pará rubber, but the article that comes from Central America is worth much less.

The same number of THE INDIA RUBBER WORLD contains accounts of three chemical substitutes for rubber, all of some commercial value now and with considerable possibilities before them. The most interesting of these has for a base the gum of the ramie plant; it is the most interesting because the ramie fiber is a valuable one and would be extensively used but for the cost of preparing it. If the gum from which the fiber has to be separated at considerable expense has a commercial use as a substitute for rubber it may be possible to use ramie on a large scale.

RUBBER ESTATES OF PARA, LIMITED.

THE Rubber Estates of Pará, Limited, registered in London in March, 1898, to acquire and work certain rubber estates owned formerly by the Visconde de São Domingoes, on the island of Marajó, Brazil, with a nominal capital of £350,000, offered £175,000 to the public. The subscriptions amounted to only £21,000, however, and certain underwriting agreements with respect to the remainder failed to be carried out, with the result that the company have labored under a disadvantage in the absence of effective working capital. The board recently proposed an issue of debentures and at a meeting held in London on June 1 such an issue was voted, to the amount of £40,000. Further details regarding this company will be found in the issues of THE INDIA RUBBER WORLD of June 1, 1898 [page 245], November 1, 1898 [page 40], and March 1, 1900 [page 155].

LEADING RUBBER FACTORIES OF GERMANY.

EDITORIAL NOTE.

ON account of the already great and the constantly growing importance of the German production as a factor in the world's rubber industry and trade, a correspondent of THE INDIA RUBBER WORLD has been asked to prepare the notes which appear below. This article is not offered as a complete account of the German rubber industry, but it doubtless will serve to indicate, to our readers outside of Germany, how and why the industry there has become so important.

THE CONTINENTAL CAOUTCHOUC- UND GUTTAPERCHA-CO. (Hanover), the largest rubber manufacturing firm in Germany, and whose "Continental" pneumatic tires are famous all over Europe, were established in 1875. They are now working with a capital of 2,400,000 marks. The attention of the firm is directed chiefly to the manufacture of soft rubber goods, and for the most part for technical purposes, namely: hose, belting, packing, etc.; also rubber cloth, balloons, patent plates, toys, balls, and rubber tires for bicycles and automobiles. The "Continental" is cosmopolitan in its business transactions, doing business all over the world, being, in this particular, the greatest German firm in this special branch. Some 6600 pounds of crude rubber are used by this firm every twenty-four hours. The grounds occupied by the works, including the new branch at Seelze, near Hanover, represent an area of 49,875 square meters, of which 16,154 are covered by buildings. The power used is fed by 12 steam boilers, representing a heating surface of 1400 square meters; in addition to 18 steam boilers, of over 1200 horse power. The 300,000 cubic feet of gas consumed yearly in the plant, the firm make themselves. The offices are lighted by electricity, supplied by a separate plant. A cast iron reservoir, of 70,000 liters' capacity and attached to the chimney, itself 50 meters high, supplies all the water used. A special fire department is on duty day and night, alarms being sounded by electric apparatus in every room. Some 300 machines are in constant operation, including hydraulic presses, up to 500 atmospheres, ice machines, and 46 vulcanizing vats, some thirty-five meters in length and a diameter of 2½ meters. The firm employ 1600 hands, not including the office and technical staff of 150, and 70 head workmen. A feature which characterizes this great company is the humane treatment of the employés. Every workman, after ten years' service in the factory, receives from the company an insurance policy for 1500 marks, the company paying premiums, as long as the recipient is in their employ. Every official, who has been employed ten years and who receives a salary of not less than 3000 marks, is entitled to a policy of 5000 marks. Furthermore, all workmen and female hands, having been ten years in the company's employ, are granted a summer vacation of one to two weeks with pay.

VEREINIGTE GUMMIWAAREN FABRIKEN, HARBURG-WIEN, VORMALS MENIER—J. N. REITHOFFER. This important concern was the subject of an article written for THE INDIA RUBBER WORLD and published July 1, 1898, together with views of the three factories. This perhaps most progressive of all German rubber factories was still more enlarged July 1, 1898, by the absorption in its admirable system of the former Hannoversche Caoutchouc-, Guttapercha-, und Telegraphenwerke, situated at Linden, Hanover. In the new works the manufacture of fine cut sheet will be carried on, together with the so-called patent rubber plates; also hard rubber articles for electrical purposes. The writer has been informed that owing to the works working to their full capacity, the manufacture of new articles can no longer be thought of.

THE ever increasing and phenomenal spread of cycling has given a fresh impetus to such companies as the HANNOVERSCHE GUMMI-KAMM CO., AKTIENGESELLSCHAFT. This corporation begun, like all German business undertakings, on a modest scale, in 1862, at present employs 1600 hands, the entire plant covering an area of no less than 52,000 square meters. This is the only German rubber firm giving, as it were, sole attention to the manufacture of bicycle tires; so that pretty much all over the Fatherland one will find in use either their "Excelsior" tires, or their chief rival, the "Continental." This specialty of the firm is so very important, especially in view of the increasing use of automobiles, that the writer will later devote a special article to the work of the firm. It would be doing gross injustice to the company not to mention their new "Excelsior" saddle, which, composed of two cushion-shaped pressed rubber parts, covered with leather, is the best the writer has seen of German saddles, which are notoriously bad as far as comfort is concerned. Besides the manufacture of tires, at present the specialty of the firm, the following eight departments form an integral part of the work of this great plant: I—vulcanite combs; II—vulcanite jewelry; III—vulcanite surgical articles; IV—soft rubber surgical articles; V—Gutta-percha goods—especially tissues for surgical purposes, blocks and sheets for insulation, tubing, etc.; VI—All kinds of technical and electrotechnical articles, moldings or castings of hard or soft rubber, pumps, stuffing-boxes, battery cells, telephone, and electric lighting outfits; VII—fancy goods and hardware, embracing smoker's goods, stationers' articles, articles of cutlery and for cutlers, gunmakers, toilet articles, druggists' and apothecaries' goods; also every requisite used by cycle makers; VIII—rubber toys, many of which are novelties in their way.

VEREINIGTE BERLIN-FRANKFURTER GUMMIWAAREN-FABRIKEN. This factory was written up at some length in THE INDIA RUBBER WORLD of May 10, 1897. The works are among the oldest in Germany dating from 1849; they employ a large number of hands, and manufacture every class of goods for which a demand exists in Germany, either for home use or for export.

LEIPZIGER GUMMIWAAREN-FABRIK, VORMALS JULIUS MARX, HEINE & CO. (Leipsic). This corporation was founded by Julius Marx in July, 1864, as a wholesale concern, for the purpose of carrying on the manufacture of surgical articles in rubber, a branch at that time but little worked. Success exceeded all expectations, so that by 1866, in spite of the war breaking out with Prussia, business had assumed large proportions. An extension of the plant was begun in 1870, also a war year, and the new premises were occupied in 1873. The firm were at this time the first to carry on the manufacture of rubber articles for surgeons' use, which they emphasized early in the seventies, by the publication of their first illustrated catalogue in this special line, thus marking a new departure. This elaborate catalogue, in German, English, French, Italian, and Spanish, has found its way to all parts of the globe, especially in the field of hospital practice and hygiene. In 1886, the undertaking was transformed into a stock company, with branches in all the great European cities. Keeping ahead of the times, the managers of the under-

taking have also included in their sphere of manufacture all kinds of articles in the field of electro-technics and chemistry. All this has necessitated the erection of additional buildings. The lighting of the plant is supplied by 400 lights, fed by two large dynamos. Steam heating has been introduced throughout the entire plant. Models and forms are made on the premises, and a carpentry and cardboard box making departments all tend to render the firm independent of outside help.

SÄCHSISCHE GUMMI-UND GUTTAPERCHA-WAAREN FABRIK (Dresden). At present a very modest undertaking, but one under the energetic management of Mr. H. Schnieder. The present plant at Pieschen, a suburb of the Saxon capital, is working to its full extent, with more orders on hand than can be filled promptly. New buildings have been erected, and are at the time of this writing in process of erection. An additional engine of 250 horse power, and a boiler of large dimensions, are now being mounted. The proprietor makes a specialty of ice machines—oil containing, acid-proof, free of sulphur and capable of resisting the highest steam pressure. Stuffing material, sheets, rings, cords, tubing, etc., are standard articles made.

FRANZ CLOUTH, RHEINSCHE GUMMIWAAREN-FABRIK (Cologne-Nippes). This flourishing undertaking was established by the present proprietor, Herr Clouth, in 1864, although he did not begin to manufacture on his own account until two years later, when he began to devote his attention to the manufacture of fine cut sheet for surgical and household purposes, the demand for which increased so steadily as to render the erection of additional buildings necessary in 1870. These new factory buildings were devoted to the manufacture of soft rubber goods, especially for technical purposes. Two hundred hands were employed here at the start, one steam engine of 140 horse power supplying the power. The goods turned out were, at first, sent to customers in Holland, Belgium, and Switzerland, but this narrow sphere of operations was very soon extended all over Europe. The increase in the number of hands and employés, of course, keeps pace with the increased demand. About this time the manufacture of hard rubber and Gutta-percha goods, waterproof cloth, rubber blankets, tents, etc., was begun. In 1891 a special factory was erected for the manufacture of insulated wire and all kinds of cables, in which branch the concern has met great success. They are, in fact, better known for this one specialty than any other. The imperial German postal authorities, and those of the South German states, give the firm large orders. These cable works were, however, in 1898, separated from the Rubber Goods Factory, being to-day carried on under the firm name of Land- und Seekabelwerke Aktiengesellschaft, Koln-Nippes. A branch plant has also been established at Nordenham-on-the-Weser, under the independent firm name of: Norddeutsche Seekabelwerke-Aktiengesellschaft. The Rubber Goods Factory, embracing every kind of rubber goods put on the market, with the exception of rubber shoes and toy balls, has to-day the reputation of being not only one of Germany's leading concerns, but one of the prominent houses in the world's rubber industry. The buildings and the plant, cover an area of over 20,000 square meters; ten steam engines, representing 800 horse power, are in constant operation, besides several electric and gas motors, representing an additional 100 horse power; 1000 hands are employed on an average, besides 70 to 80 technical and business employés.

THE MANNHEIMER GUMMI- UND GUTTAPERCHA- UND ASBEST FABRIK (Manheim) was founded by Americans* in 1868. Although at that time the undertaking was founded on very modest lines, it began in 1870, by the addition of the manufacture of soft rubber goods for technical purposes, to assume larger proportions. The manufacture of hard rubber goods was, until 1887, restricted solely to combs and fancy goods, after which date the hard rubber department embraced surgical, electrical, and technical articles in general. Among the latter, the battery cases, made by this firm and extensively used throughout Germany and prized for their acid resisting qualities, are prominent. The manufacture of asbestos, which specialty has made the name of this company famous, was begun in 1885. The firm also develop a great capacity in the manufacture of pumps, pipes, cocks, etc., for conducting acids; also for coating iron with hard rubber, such as centrifugal drums for powder, dynamite, and chemical factories. A special department is devoted to the manufacture of rubber toys, dolls, animals, etc. These latter articles are shipped in large quantities to India, China, Japan—in fact, all over the world. Asbestos articles and packing are made in a separate building. All theatrical decorations, scenery, etc., are now required by the police authorities in Germany to be made of asbestos material and asbestos garments are universally used in smelting, acid, and powder plants. Its isolating qualities and as a protection against the singing rays of the sun are, unfortunately, not so highly esteemed in Germany as by the English in their colonies, where, especially in India, the thin walls of the houses are composed of this material. The steam power used in the various factories is supplied by four boilers, representing a heating surface of 120 meters. The premises of the firm cover an area of 18,000 square meters. Four hundred and fifty hands are at present employed, a number seemingly out of proportion to the work turned out, but not so when we consider the manifold use of labor saving machines, the firm, in this respect, faithfully proving true to the principles laid down in the very beginning by the practical American founders. The continual addition of new buildings and machinery, an almost yearly necessity, bears eloquent testimony to the prosperity and flourishing state of this firm.

This sketch must not end without a mention of the establishment of HUTCHINSON & CO. in Manheim. This company was established some thirty years ago and, like all English undertakings, carried on on the "slow and sure" principle, until the time came to launch out and take good advantage of the market. The firm are now the largest and most important manufacturers of rubber shoes in Germany. They will soon leave their present narrow and incommodious quarters, to take possession of a large plant directly on the Neckar, thus affording first rate water connections with Hamburg and transatlantic ports. The head of the firm, Mr. Myron R. Hutchinson, very courteously received your correspondent and the interview, which was to have lasted only ten minutes, was spun out an hour. Mr. Hutchinson said the Russians were killing German competition in the rubber shoe trade, owing to the low tariff on Russian goods, whereas German manufacturers were prevented by a prohibitive tariff from competing in the Russian markets. Still he was very well satisfied with the present state of home trade. The firm make an excellent bicycle tire. Mr. Hutchinson, after taking a look at the writer's Morgan & Wright non-slipping tires, which had just carried him over 1000 kilometers, said the tires seemed to be still as good as new. Mr. Hutchinson was also enthusiastic in his praises of THE INDIA RUBBER WORLD.

A notable feature of the rubber trade of Germany is an association maintained by the manufacturers for several years past for the benefits which result from the interchange of ideas.

*The founder was Myer Dittenhoefer, who went over from New York, after several years' experience in the hard rubber manufacture. He returned to America and is now at the head of the Goodyear Vulcanite Co.—THE EDITOR.

NEW GOODS AND SPECIALTIES IN RUBBER.

A NEW FEATURE IN METAL SHUT OFFS.

IN the tube compressors made hitherto, as in the case of metal shut offs used in connection with fountain syringes, the jaws at the point of engagement have been parallel to each other, as shown in the first of the illustrations herewith. The greatest resistance to the closure of the clamp,

when applied to a rubber tube, occurs at the side of the tube where the walls return one upon another, and it is difficult at times to compress the tube at the edges sufficiently to make a complete closure. By the improvement here illustrated, the complete closure of the tube is accomplished by so forming the jaws of the compressor that they will exert a greater pressure at the edges of the flattened tube than at the middle, and at the same time tend to force the substance of the tube toward the middle of the jaws, and thereby produce a tight joint from side to side in the passage of the tube. This action of the jaws upon the tube may be produced by so shaping the jaws that they shall be nearer together at the sides than at the middle, as shown in the second illustration. The claim made

in this invention is not limited to any particular form of either or both of the jaws of a tube clamp or compressor, nor to the application of a special form of jaws to any particular construction of tube compressor, since the invention consists simply in the construction of the jaws in such a manner that the distance between them shall decrease toward the sides of the jaws, so that a greater pressure may be exerted upon the tube near its sides, and the tube itself forced toward the middle of the jaws, thereby effecting a complete closure entirely across the tube. This object may be attained either by arching the upper or the lower jaw, leaving the other straight, or by arching both. One other merit of this new shut off is best described by first mentioning that if a clamp of the old form is accurately adjusted to make a complete closure in a tube having a certain thickness of wall and flexibility of material, it will not always operate successfully on a tube whose walls are of greater thickness or the material of which is of less flexibility. But on account of the arching of one or both of the jaws as here described, the same shut off will serve equally well when applied to tubes of varying sizes. A patent has been applied for. [Brass Goods Manufacturing Co., No. 100 Third street, Brooklyn, N. Y.]

THE "COLE" STEAM VULCANIZER.

THIS steam vulcanizer has been designed with the view to supplying repairmen in general with a machine at a moderate price, and one easily handled by a novice, and in which a repaired tire can be vulcanized safely without danger of burning. It has also been taken into consideration that the extended use of pneumatic tires on horse and motor vehicles throughout the country makes desirable the fitting out of repairmen to meet the public demand for the prompt turning out of this work, and fully up to the standard heretofore obtainable only by the return of tires to the manufacturers. The manipulation of the vulcanizer is very simple, it consisting of a steam chamber, heated by gas burners, the chamber having openings in the top in which to insert the sectional molds for the vulcanizing operation. The amount of fuel consumed is very small, and the heat, being steam, is easy to control. The range of work that can be done is large, taking in all sizes of tires from an 1¼ inch bicycle tire to a 2½ inch carriage tire. There is also an attachment to take in the 3, 4, and 5 inch sizes of automobile tires, if that is desired. [Fisk Rubber Co., Chicopee Falls, Mass.]

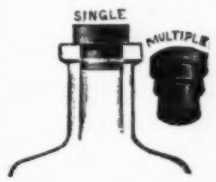
COVER FOR CARRIAGE LAMPS.

THE illustrations herewith relate to a very desirable new article known as the Tompkins adjustable cover for carriage and wagon lamps, for which a patent is pending. It is designed to keep the mud, dust, and water from carriage lamps, and also to prevent the lamps from becoming tarnished from ammonia fumes of the stable. It is made in sizes and shapes to fit any lamp. It is made in one piece of heavy rubber drill, with four ply seamless head. It is absolutely waterproof; all seams sewed and vulcanized; no patent fasteners to draw out; is readily applied and easily laced with one drawstring. It may be regarded as a labor saver, on account of keeping the plating bright, and the luster on japan. The smallest size on the manufacturer's list is 4×4 inches in size and 16 inches long, for buggies and runabouts, the price to jobbers on which is $1.50 per pair; larger sizes cost proportionately more. [The Fairfield Rubber Co., Fairfield, Conn.]

OPEN. CLOSED.

SELF SEALING UNIVERSAL STOPPER.

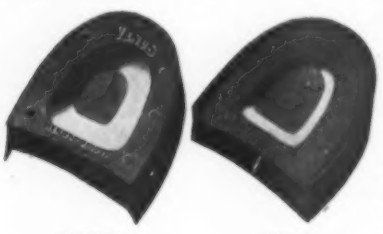
THIS rubber stopper, instead of being constructed on the wedge principle, is made of two or more sections, each of which is slightly larger in diameter at the lowest part. In use, therefore, this stopper enters the neck of the bottle with its largest diameter downward, and, when forced into the neck of the bottle, clears the glass of all adhering liquid, and when finally forced home the point of firmness in fact is at the lowest point in the neck of the bottle, with a firm grip clear to the mouth.



The short step at the top, which is at right angles to the inner surface of the neck, then closes down firmly over the top of the neck, producing an air tight and firm double closure, and this step furnishes a powerful lever for the removal of the stopper, while the short projection obviates danger of displacement by careless handling, and it makes a smaller and neater package. It is claimed, in regard to the ordinary rubber stopper, its shape leads it more easily to creep out under internal pressure or from jarring, while the necessarily long projection above the neck of the bottle, for its easy removal, renders it liable to displacement in handling. The manufacturers of this new article, who have applied for patents on it, have made some tests which afford an interesting comparison of the efficiency of stopping bottles with it and by means of other stoppers. [The Two Centuries Manufacturing Co,. Erie, Pa.]

THE "VENUS" RUBBER HEEL.

THIS new heel, patented April 13 last, differs in appearance from any other in the market, because it embodies features not found in the others. Illustrations are given herewith of both the upper side and the under side of the heel, because in respect to the latter the "Venus" is unique. This heel has a peculiar little projection on the under side which enables the cobbler to make an almost invisible joint in attaching the heel to the shoe. This both makes the work easier and insures a better looking heel, since it prevents the unsightly gaps which are seen so frequently between the rubber and the leather. The depression illustrated in the cuts is designed to give all the pneumatic effects that are claimed for any other heel. The heel is designed to prevent slipping and tracking dirt, and its face is not marred by large and unsightly nail holes. [The Wm. H. Wiley & Son Co., Hartford, Conn.]



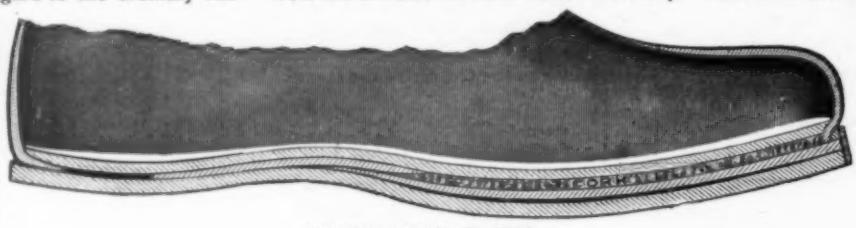
OUTSIDE. INSIDE.

A STEEL SPRING RUBBER TIRE.

THE Latimer Rubber Tire Co. (Chicago, Ill.), have recently introduced on the market a new compound steel spring tire, to take the place of the pneumatic or solid rubber tires. From actual tests, extending over a period of one year and a half, they claim at least 50 per cent. longer life for this type of tire. It is more resilient than solid rubber and, therefore, should stand more wear. It will not crack off at the top of the channel, as the steel springs keep the rubber from cracking at that point. The two coils of wire are in a telescopic engagement with each other and embedded in a body of rubber at a very high pressure, so as to form a solid mass of rubber and springs, These tires will not creep in the channel, as the springs make it impossible.

THE RALSTON HEALTH SHOE.

A DISTINCTIVE feature of the shoe of which a sectional view is presented herewith is the provision which has been made to render the bottom practically damp proof, with a view to keeping the foot of the wearer dry and comfortable. In the construction of the bottom of the shoe there comes first the outer sole; next, a patent wool felt interlining with a gossamer rubber face thoroughly cemented to it with rubber cement. This acts as a damp repellant, preventing surface dampness from penetrating the shoe, and also as a cushion, besides preventing squeaking. Next above this comes another leather sole, and above this a cushion of pure sheet cork, extending from the extreme toe back under the instep. This latter is set



THE RALSTON HEALTH SHOE.

in place and whole of the inner sole is coated with a waterproof compound with which the inside of the welt is also treated, to prevent dampness from coming through to the sole of the foot, either through the shoe sole or around the edge of the shoe. Another point to be made is that, by preventing dampness or moisture from reaching the foot, this shoe is proportionately warmer in winter, which fact is expected to recommend the shoe to persons who dislike to wear arctic overshoes. [Ralston Health Shoe Makers, Campello (Brockton), Mass.]

MINOR MENTION.

JENKINS BROTHERS (New York) are offering a gasket tubing made from a compound somewhat similar to their '96 packing. It is made in diameters of ⅜", ½", and ⅝", and lengths of about 12 feet, and packed in 4 and 6 pound boxes. This tubing is cut with bevel edges; a plug is then inserted and the joint is wrapped with adhesive tape. Each box contains a supply of plugs and tape.

= An English patent relates to a device for preventing the stoppers of hot water bottles from becoming lost. It consists in the combination with the stopper of a tab of rubber attached thereto, by means of a swivel joint which permits of the free rotation of the stopper, and attached also to the tip or some other part of the bottle.

=Tuck & Co., Limited, of Liverpool—the original manufacturers of "Tuck's packing"—have introduced in the market a new grade of belting, made of Gutta-percha and Balata, which they have named the "Tucksonia" belting.

REMOTENESS OF THE RUBBER COUNTRY.

WRITING of a trip up the Amazon, by steamer, to Manáos, Frank Leslie Rockwood, in the Lewiston (Me.) *Journal*, mentions meeting another steamer which "had been away from Pará for one year, up one of these unexplored rivers, and had not been heard from. There were rumors that the Indians had got her, but here she was, loaded with rubber, and full of wild, half naked passengers, just returning from a successful trip. They could tell experiences that would seem improbable the present day, but this great Amazon river and its branches will not be explored for fifty years yet, as some fighting has to be done to see it all." It is not strange, in view of the assertions made by this correspondent, that the English shareholders in Amazon shipping lines do not get larger dividends. He mentions a profitable local trade along the river, all the profits of which are pocketed by the officers of the steamers, "who get rich out of it." It is such conditions as are here suggested that have the most important bearing upon making rubber an expensive commodity.

EXTRACTING RUBBER FROM YOUNG PLANTS.

THERE is in operation at Singapore a process for the extraction of India-rubber from the bark of young trees, by mechanical means, in charge of two French gentlemen, Fernand Vivier and Emile Deiss. In a letter to an American correspondent, M. Vivier writes: "I extract from plants not six months old an appreciable quantity of Caoutchouc, which enables me to say that the annual cultivation of Caoutchouc is practicable under my process. I have obtained some very good results from the *Castilloa elastica*, from the *Ficus elastica*, and the *Willoughbeia firma* [the kind of rubber native to the Malaysian peninsula and the islands of Sunda—a creeper which grows to very great dimensions]. If in your country you know of some desirable people who would be interested in my process, I would be disposed to go to America for a short time, with the object of forming a company to exploit the young trees or plants of Caoutchouc." M. Vivier was recently in Ceylon, with a view to meeting planters and merchants in that country interested in rubber cultivation and interesting them in the introduction of his process, which, he claims, will add materially to the profits of such culture.

Writing in *Der Tropenpflanzer* of results obtained in experiments in Ceylon in December, 1899, and January, 1900, Dr. Axel Preyer says:

The sap flowing from the cut surface of the severed leaves of all the following named India-rubber plants contains the typical milk corpuscles which apparently are not different from those of the sap taken from the trunk of the trees. The quantity of the milk corpuscles in leaf sap is always materially less than in the trunk sap. In the leaf sap solid substances may easily be separated by drying, warming, chemical treatment and, quite readily by simply letting it stand, which show the following characteristics: The leaf sap of—

Ficus elastica gives a sticky, stringy, unelastic mass.

Manihot Glaziovii gives a soft plastic, not sticky mass, which can be torn.

Urceola esculenta gives a sticky, stringy, unelastic mass.

Hevea Brasiliensis gives a good, elastic, not sticky, rubber.

Castilloa Markhamiana and *Landolphia Kirkii* give leaf sap in such small quantities that a sufficient amount of solids could not be obtained.

All these leaf saps, by simply letting them stand, separate solid substances much faster than the saps obtained from the trunks, consequently coagulating factors (vegetable acids?) must be present.

Two quantitative experiments with *Hevea Brasiliensis* leaf sap gave the following result:

The sap obtained, by stripping with the fingers, from 500 leaves of a twenty-two year old tree yielded on coagulation with citric acid 0.325 gram useful rubber, The sap obtained likewise from 500 leaves of a 1½ year old tree yielded, by coagulating it with citric acid 0.27 gram serviceable rubber. Leaving aside the almost impossible practical mode of obtaining leaf sap, which coagulates rapidly, the experiment of cultivation may be fixed as giving the following result: The 1½ year-old *Hevea* plants can stand 10 centimeters apart, and have each from from 40 to 60—at an average 50—leaves. These would yield per plant 0.027 gram rubber, this would be per hectare (100,000 plants) 27 gram of rubber.

Evidently very little rubber is contained in the leaves used in the described manner of obtaining the sap, and even if the yield could be doubled by other methods (pressing?) it would be too insignificant to advise the experiment of this manner of culture.

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED JUNE 5, 1900.

NO. 650,907. Bicycle tire. Howard Pope, Hollidaysburg, Pa., assignor of one-half to John S. Dunn, Duncanville, Pa.

650,954,-650,955,-650,956. Elastic garment gusset. Jeremiah A. Scriven, New York city.

651,035. Rubber tired wheel. Walter D. Gregory, Newark, N. J.

651,258. Piston packing. Albert A. Murray, Baltimore, Md.

651,268. Valve for pneumatic tires. Edward F. Pickett, Buffalo, N. Y., assignor to American Pneumatic Valve Co., New York.

ISSUED JUNE 12, 1900.

651,364. Compound useful as substitute for rubber. Isidor Kitsee, Philadelphia.

651,372. Cushion horseshoe. John M. Lord, Kansas City, Mo.

651,582. Substitute for Gutta-percha. Hugo Schneider, Strasburg, Germany.

651,640. Elastic waterproof composition. Helen L. Russegue, Hartford, Conn.

651,743. Detachable cover for pneumatic tires. Thomas Caldwell, Bolton, and William Caldwell, Leigh, England, assignors by mesne assignments, to the Radax Pneumatic Tyre Co., Limited., Warrington, England.

651,745. Method of making covers for pneumatic tires. *Same.*

651,753. Dental compound. Benjamin C. Fowlkes, Mobile, Ala.

ISSUED JUNE 19, 1900.

651,819. Flexible watertight bag. Charles T. Bradshaw, Philadelphia.

652,059. Tool for tightening rubber tires. Conrad Waechter, Jr., Mount Vernon, N. Y.

652,099. Vehicle tire. Henry H. Gerhardt, Nashville, Tenn., assignor of one-half to Barbara B. Dunnavant, same place.

ISSUED JUNE 26, 1900.

652,281. Manufacture of resilient tires. James M. MacLulich, Dundrum, Ireland.

652,299. Hose. Frank C. Smith, Delaware, Ohio.

652,322. Process of preparing coatings of India-rubber on surfaces of waterproof bedsheets. Johann Minder, Moscow, Russia.

652,500. Heel trimming machine for rubber boot trees. William H. Austin, Brockton, Mass., assignor of two-thirds to H. Cary and Augustus A. Delano, same place.

ENGLISH PATENT RECORD.

APPLICATIONS.—1900.

9,763. Edwin Stuart Herbert, 24, Old Park avenue, Balham, London. Improvement in pneumatic tires. May 28.

9,798. Emma Nixon, 55, Chancery lane, London. Improvements in pneumatic tires and rims. May 28.

9,814. Walter Draper Gregory, 40, Chancery lane, London. Elastic tired wheel. May 28.

9,882. William John Murphy, 46, Brixton road, London. Improved pneumatic tire. May 29.

9,891. Henry Paar, 45, Southampton buildings, London. Improvements in cushion horseshoes. [Date applied for under Patents, etc., Act, 1883, sec. 103, November 6, 1899, being date of application in United States.] May 29.

9,899. Ernst Gustav Zieger and Ernst Emil Wiegand, 37, Chancery lane, London. Improvements in rubber gloves for operative purposes. May 29.

9,906. Albert Leon Arnaud, Auguste Victor Louis Verneuil, Albert M. Marie Guillaume Wehry, and Alexandre Godefroy Lebeuf, 45, Southampton buildings, London. Improvements relating to the manufacture [preparation] of, India-rubber. May 29.

9,923. Edmond Garnier and Arnold Plank, 58, Howard street, Great Yarmouth. Improvement in and relating to air inflated tires or wheels. May 30.

9,990. Alfred Julius Boult, 111, Hatton garden, London. Improvements in or relating to pneumatic tires. [Franz Eugen Muller, Germany.] May 30.

10,045. John Hancock Nunn, 6, Bream's buildings, London. Improvements in horseshoe pads. May 31.

10,268. Joseph Towlson, 7, St. Mary's terrace, Poole. Improvements in tires for cycles, autocars and other vehicles. June 5.

10,356. Joseph Wilfred Bowley, 5, Lynton road, Crouch End, London. Improved apparatus for printing with rubber and other kinds of type. June 6.

10,420. Benjamin Charles, Fairfield, Kingston-on-Thames. Improvements relating to pneumatic tires. [Date applied for under Patents, etc., Act 1883, sec. 103, December 1, 1899, being date of application in United States.] June 7.

10,567. William Steane and Henry Herman Bissell, 11, Burlington chambers, Birmingham. Improvements in wheels having rubber tires. June 9.

10,582. Leo Uhlfelder, 18, Buckingham street, Strand, London. Improvements relating to teats of feeding bottles. June 9.

10,608. William Samuel Sloan, Boyle, Ireland. Improved air tube for pneumatic tires of bicycles, motor cars, etc. June 11.

10,620. Thomas William Duffield, 22, Glasshouse street, London. Improved valve cap attachment for the valves of pneumatic tires. June 11.

10,626. Percy Richard Julius Willis, Kingston-on-Thames. Improvements in pneumatic tires. [De Witt Haskin Bothwell, United States.] June 11.

10,645. Orazio Lugo, 55, Chancery lane, London Improvements in substitutes for India-rubber and Gutta-percha. June 11.

10,685. Joseph Wilfred Bowley, 5, Lynton road, Crouch End, London. Improved apparatus for printing with rubber type. June 12.

10,707. Walter Freeman Ware, 45, Southampton buildings, London. Improvements relating to rubber nipples for the use of infants. June 12.

10,742. Frederick Warner Jones, 332, Dashwood house, London. Improved method of fixing tires to rims for cycles. June 13.

10,764. John Wride, 4, St. Ann's square, Manchester. Improvements applicable to pneumatic tires. June 13.

10,775. Joseph Baier and Emily Clark, 85, Coolfin road, Victoria docks, London. Improvement in spring tires for the wheels of bicycles and vehicles. June 13.

10,800. Stanislas Serkowski, 323, High Holborn, London. Improvements relating to the waterproofing of fabrics. June 13.

10,812. Thomas Ferneley Wiley, 2, Market street, Bradford. Improvements in apparatus for rendering textile fabrics waterproof or water repellant. June 14.

10,863. Cecil John Reginald Le Mesurier, Didcot, Berkshire. Manufactured substitute for India-rubber. June 14.

10,897. Charles Ernest Chirney, 93, Grosvenor road, London. Puncture proof inset for pneumatic tires. June 15.

10,911. Walter John Lloyd and William Priest, 7, Staples inn, London. Improvements in valves for pneumatic tires. June 15.

10,910. *Same.* Improvements in air compressing pumps or inflators for pneumatic tires. June 15.

10,959. William Colin Wood, 48, High street, Windsor. Improvement in pneumatic tires. June 16.

11,161. William Andrews and Frederick William Macefield Pedley, 9, Exchange chambers, Birmingham. Improvements relating to distendible tires and rims or seatings for the same. June 20.

11,175. Ernest A. Walford, 72, Cannon street, London. Improvements in fire hose. June 20.

11,202. William Hann and Robert Brown, 306, High Holborn, London. Improvement in tires for wheels for cycles and the like. June 20.

11,221. Henry Bartley Harris and Richard Yelland, 6, Lord street, Liverpool. Improvements in or relating to pneumatic tires. June 20.

11,265. Harold Dennett Heather, 165, Queen Victoria street, London. Improved composition for waterproofing fabrics. June 21.

11,316. Carl Otto Weber and Isidor Frankinburg, Greengate Rubber Works, Salford. Improvements in the ornamentation of India-rubber waterproof fabrics. June 22.

11,324. Aldred Farrer Barker, 2, Market street, Bradford. Improvements in pneumatic tires. June 22.

11,332. Frank Giffin Carter and Charles Henry Cronf, 6, North road, Brighton. Cover for pneumatic tires. June 22.

11,363. William Owen Hughes, 22, Glasshouse street, London. Improvements in air tubes for pneumatic tires. June 22.

11,405. Ralph Walker Stewart, trading as The Scottish Central Rubber Co., and Louis Collins, Glasgow. Improvements in waterproof coats. June 23.

PATENTS GRANTED.—APPLICATIONS OF 1898.

24,021. Method of Attaching Tire to Rim. McCormack, J., Glasgow. March 7.

24,081. Inflating Pneumatic Tires. Spooner, A. F., 323, High Holborn, London. March 7.

24,090. Boot Uppers. Tippet, H. G., Liverpool. March 14.

24,220. Cover for Pneumatic Tires. Loog, H., 36, Newgate street, and Gubbins, R. R., 65, Pelton road, London, March 14.

24,236. Method of Attaching Pneumatic Tire to Rim. Lenton, L., Coventry. March 14.

24,391. Pneumatic Tire. Burt, J. U., Islington, London. March 14.

24,392. Tire Valve. Sloper, T., Wiltshire, and Gray, C. H., India Rubber, Gutta Percha, and Telegraph Works Co., Silvertown. March 14.

American Inventions.

25,028. Means for Preventing Escape of Air from Punctured Tire. Kempshall, E., Newton, Mass. February 21.

23,412. Hose Reels. Cliff, E., Newark, N. J., and Jones, L. D., New York city. February 28.

24,075. Tread for Pneumatic Tires. Kempshall, E. March 7.

24,118. Means for Closing Punctures. Call, C. C., and Bradford, E. S., Springfield, Mass. March 14.

PATENTS GRANTED.—APPLICATIONS OF 1899.

662. India-rubber Studs for Boots and Shoes. Saria, B., Hamburg. Germany. May 2.

839. Fittings for Retaining Occupants in Hansom Cabs. Dickson, W., 15, Dents road, London. May 9.

850. Waterproofing Process. Good, W. H., Yeovil, Somersetshire. May 9.

853. Cover for Pneumatic Tire. Schultz, R., Berlin. May 9.

1,008. Cycle Tire Inflators. Lake, H. H., 45, Southampton buildings, London. May 9.

1,018. Method of Inflating Tires, Footballs, etc. Deeks, G. H., 20, Gower place, London. May 9.

1,101. Method of Waterproofing Garments. Krautwurm, H., Pinneberg, Germany. May 9.

1,196. Rubber Hoof Pad. Laycock, W. S., Sheffield. May 9.

1,466. India-rubber Lift Valves. Moore, W. H., London. May 16.

1,521. Method of Securing Tires to Rim. Rath A. I., Camberwell, London. May 16.

1,639. Pneumatic Tire. Mickolczy, J., Vienna. May 16.

1,779. Inner Tube Tire. Thompson, W. P., Liverpool. May 16.

2,005. Rubber and Metal Tire. Smith, G. W., and Hayes, J. R. S., London. May 24.

2,229. Puncture Repairer. Donnelly, A. F., Calcutta. May 24.

2,553. Elastic Tire. Andrews, A. T., Birmingham. May 30.

2,573. Pneumatic Tire. Boult, A. J., 111, Hatton garden, London. May 30.

2,838. India-rubber, etc., Variegated. Landau, W., Friedberg, Hesse, Germany. May 30.

2,848. Varnishes. Smith, A. J., Greenwich, Kent. May 30.

2,945. Pneumatic Tire. McCready, R. A., Ontario, Canada. May 30.

3,121. Pneumatic Tire. Gerlach, A., and Ernst, A., Hanover, Germany. June 7.

3,192. Inflating Valve. Dumstrey, J. M., Berlin. June 7.

3,292. Inflating Pumps for Tires. Rachmann, W., Heida, Bohemia. June 7.

3,523. Elastic Tire. Mitchell, R. J. C., Albert Works, Waterfoot, Lancashire. June 13.

3,710. Machine for Mixing India-rubber and for Grinding Waste Rubber. Wicks, Joseph Thomas, Birmingham. June 13.

3,837. Method of Attaching Pneumatic Tire to Rim. Scott, H. J., Wilmington street, Rosebery avenue, London. June 13.

3,880. Method of Rendering Fabrics Waterproof. Frankenstein, L., and Lyst, C., Victoria Rubber Works, Manchester. June 13.

4,136. Inflating Tires. Emringer, J., and Marchand, P. E., Paris, France, June 20.

4,321. Pneumatic Tire. Epinat, J., Lyons, France. June 20.

4,456. Rubber Tire. Scott, G. L., Manchester. June 20.

4,526. Inflating Valves. Thompson, W. P., 322, High Holborn, Middlesex. [Muller & Co., G.; Gmund, Wurtemberg, Germany.] June 27.

4,582. Cushion Tire. Alexander J., Glasgow. June 27.

4,629. Puncture-proof Tire. Ellis, C. E., Eastbourne, Sussex. June 27.

4,631. Moisture-proof Lining for Garments. Schwamm, C. W., Stuttgart, Germany. June 27.

JOTTINGS BY THE TRAVELING EDITOR.

THE rubber shoe heel, in spite of the predictions of pessimists, goes on its way, and thousands are using them. As a matter of fact, it was really the police who first used them to any extent, a very common method of getting a heel being to take an old wringer roll, and, cutting it open on one side, to form it into shape, and have a shoemaker attach it to the heel. These heels, of course, were not elegant, but they enabled the officer to patrol his beat without advertising his presence conspicuously to thieves or loiterers. The very fact, however, that a rubber heel does allow one to walk so quietly, is in many cases a disadvantage. For example, the commercial traveler who walks into a man's store on rubber heels, and, before the other is aware of it, is standing over him and perhaps looking at prices and samples that he ought not to see, is not likely to increase his popularity. Furthermore, if he has any finer feelings, he will himself be embarrassed, because, without meaning it, he has "sneaked." He can announce his coming afar off by a loud "ahem," but this gets to be a bore after a while. There is one other drawback about a rubber heel; when it is worn smooth it will slip on a wet surface as if it were greased. These minor troubles, however, do not seem to affect the general popularity of the heel. They certainly, if made of good stock, will impart a sort of springiness to the tread, and to those who walk heavily on their heels, the rubber cushion does away with the shock that must be more or less injurious.

* * *

ONE of the most interesting facts in modern rubber manufacture, is the increasing care in the housing and surroundings of the employés. This shows itself in many ways—in the light, well ventilated rooms, mid day lunches, and other assistances to the physical well being of the worker. Quite lately most interesting experiments have been tried by a leading factory in England and another in the United States, concerning the color of the paint on the interior of the work rooms. Ninety-nine rubber manufacturers out of a hundred would have used whatever paint was cheapest and most durable. The heads of the two factories mentioned, however, believed that the reflected light from the walls might have a helpful effect on the workers or the reverse, and one, after careful tests, thought a certain shade of green was best, perhaps being prejudiced in favor of it because it is the color above all others that Nature chooses for the fields and the woods. The American, however, reached a radically different conclusion, which was that a certain shade of red was by far the best. It not only reflected the light in a more satisfactory way, but, he claimed, on the part of the workers there was an unusual alertness when they were in the red room. Such differences, of course, are difficult to measure. There is no doubt that there is something of practical value to the manufacturer in his color choosing, but above all, to the mind of the writer, it shows that there is an attention to detail, and an interest in every problem touching his particular business, that is beyond all praise.

* * *

THE question of texture in sheeted rubber has received a great deal of attention from those who make fine goods. It is well known that calendered goods show a certain fiber, if that term may be used; that is, the rubber will tear more easily in one direction than it will in another. In other words, calendering of the sheet seems to give it a certain fiber. It is interesting in this connection to note the process that is gone through with, to insure a certain fiber in cut sheet. This is not made on a large scale anywhere in the United States. It is, however, made in Europe, in the following manner: The rubber, which is pure old Pará, is carefully selected, and washed and masticated so thoroughly that it is really a sort of paste, and shows very little strength. It is then put in a heavy hydraulic press, and pressed into a large cylinder, this pressing going on for weeks, the press being closed up a little each day. It is then put in a cold place, and left for weeks and months, the result being that, resting thus in the cold, it regains its fiber gradually, and in time is as strong as ever. Exactly what happens during the months of resting, that gives back to the rubber its strength, does not appear from any ordinary explanation. When it is thoroughly understood it is quite possible that a quicker process will be devised.

* * *

COMING back to the question of substitutes, it is well for all of those who look into them to recollect that outside of the few who have something really good, there are a great many who have nothing at all. These people may be divided into two classes—the first who believe they have something and who haven't, and are thus sure to lose money for their backers, and the few who know they haven't anything, but are trying to foist a fraud on some one else. A representative of this latter class called at a rubber factory not long since, with a bag of oxydized oil, which he claimed could be made up into goods without the use of either crude or reclaimed rubber. He came at a time when the superintendent was busy, and his bag was left on the floor in the office, the idea being that in a little while a grinder would be placed at his command, and he could go ahead with his experiment. The inventor after waiting a little while got weary, and went out to get a drink. Just then the superintendent came in the office with the idea of starting the experiment. He therefore sat down to wait for the inventor, and while he sat there, without thinking, ran his hand into the bag, and was letting the powdered substitute run through his fingers, when he felt a hard lump. Pulling it out, he discovered it was a cube of pure Pará rubber. Instantly, he caught on to the trick, and by the time the substitute man returned, he had rescued all of two pounds of Pará rubber in little cubes, from the bag. It is needless to say that the experimenting was stopped then and there, and the schemer started away from the factory in a hurry.

* * *

THE people of the state of Illinois have been lately very much exercised over a discovery that bids fair to seriously affect the users of pneumatic tires. The new trouble is due to nothing less than a curious insect which has appeared in Evanston, and is known as the "bicycle bug." It is described as a hornet like insect, looking something like a caricature of the Jersey mosquito. It is described as having a body about an inch long, supporting a pair of tentacles four inches long. These tentacles are really borers, and the bug has a habit of alighting on rubber tires and puncturing them. A Chicago wheelman called the attention of Professor William A. Locy, of the Northwestern University biological laboratory, to the insect, which he identified as an *Ichneumon*. This is one of a very large class of insects which have, for a boring apparatus, a hollow tube through which the egg is laid. The insect,

however, always lays its egg in other insects, sometimes boring through the bark of a tree to get at grubs and larvæ. The professor suggested that it might be possible that the insect bored through the tire as it would through the bark of the tree, seeking a place to deposit its eggs. It is a very curious fact that no pest that appears ever has things long its own way; if it is, for example, a destructive insect, nature furnishes something that in turn feeds upon it and destroys it. The Traveling Editor, therefore, is very glad to be able to chronicle the advent of a living antidote for the bicycle bug. It is nothing more or less than a creature very similar to the ordinary stag beetle. In addition to its powerful jaws, it has a needle-like apparatus with which it bores into the eggs of the ichneumon, and then injects into them and around them a gummy fluid very similar to Gutta-percha solution. This not only destroys the eggs, but also acts as a permanent repair for the tire. Indeed, the tire is said to be stronger at that point than anywhere else. Expert naturalists make no secret of their belief that the time will soon come when every bicyclist will possess at least one of these bugs, and arrangements are now being made to ship a large quantity of them to Chicago as a distributing point.

* * *

NEW methods of making rubber substitutes are constantly being discovered. One that is altogether in the line of modern progress, and that will attract attention at once, is the use of liquid air, or perhaps liquid oxygen in the oxydization of such oils as linseed and cotton seed. The inventor of this process is a man connected with large liquid air projects, and he reports excellent results so far, and a lessening of the cost of manufacture.

* * *

THE advent in New York of W. A. Clarke, for a long time past the advertising manager or "Funny Man" of the B. F. Goodrich Co., is a matter of quite general interest. Mr. Clarke is known the country over through the very original booklets, posters, and hangers that he has gotten up for the Goodrich company. His work has a peculiar individuality that seems exactly to fit the American sense of humor. He leaves Akron because he believes the field is larger in New York, and furthermore because he has long desired to make his home in America's great metropolis.

* * *

THE leather jacket, which for many years had a large sale among farmers and out-of-door workers, promises ere long to be a thing of the past, and this is particularly true regarding the cheap leather jacket, its place being taken effectively by double texture jackets, with a rubber coating between the two fabrics. Of course the business is not an enormous one, but all such double textures are thoroughly approved by mackintosh men during quiet times.

* * *

THE use of hammering machines in making seams without cement has attracted considerable attention among those who make druggists' sundries, tires, and the like. A rubber manufacturer in talking with the writer the other day, said that he thought the use of the machine in the near future would be widely extended. He held, for example, in the manufacture of better grades of rubber shoes, that instead of using so much cement, the rubber and friction surfaces would be simply hammered together by a machine particularly adapted for this work. That the work would not only be done quicker but cheaper, and far more comfortably to the workers, in that there would be very little benzine fumes in the air—a most important consideration.

RECLAIMING RUBBER IN ENGLAND.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The suggestion made recently by an English writer in this journal, that the Americans should start a rubber reclaiming works in England, will, I imagine, be viewed with alarm by those who are already in the trade. As the above writer has said, the rubber recovery business, though carried out by several firms, is in no case conducted on a large scale, and there is every reason to suppose that a large factory on the American principle would more than hold its own. It is, however, somewhat a matter for conjecture as to whether a really large production of the cheapest quality could be sold here, seeing that our largest rubber factories make recovered rubber of a sort themselves from their own waste. Nor is it every firm which acknowledges its utility. I remember, a year or two ago, one of our prominent rubber chemists telling me that he had argued the whole thing out, and that there was no possible advantage in using scrap at about *4d.* per pound. A better result, he said, could by got by using common rubber and mineral. I give this expression of opinion for what it is worth, and certainly do not claim that it reflects the state of mind of the trade generally in regard to the matter. There seems some danger of the rubber recovery business being overdone, as the substitute business has been, an idea having got abroad that it is a rapid road to the attainment of wealth. This idea does not seem to have any very substantial basis, and I should be chary of advising people who know nothing of the rubber trade to embark in the business. The man who can really devulcanize the best quality of crumb rubber, has, of course, every prospect of accumulating wealth, but one cannot cast so favorable a horoscope for him who enters on the business of making a cheap compounded scrap on the old familiar lines.

W. M. C.

Manchester, July 7, 1900.

LITERATURE OF INDIA-RUBBER.

IT is understood that the department of agriculture at Washington is preparing a bulletin on Caoutchouc yielding plants. Thus the government of the United States is putting itself in line with other governments in recognizing the importance of placing the production of this valuable commodity under intelligent supervision.

IN CURRENT PERIODICALS.

LES Recherches de M. Parkin sur le Caoutchouc et les Caoutchouciers. —III. [Continuation of a summary and review of J. Parkin's studies of India-rubber at the Ceylon botanic gardens.]=*Revue des Cultures Coloniales*, Paris, VI-54. (June 5, 1900) pp. 346 352.

Die Herstellung von Kautschuk-Surrogaten aus Oelen. [The production of Rubber Substitutes from Oils.] By Johann Baptiste Höhn. =*Chemische Revue*, Leipzig. VII-6 (June, 1900) pp. 113-117.

Kautschuk Expedition des Kolonial-Wirtschaftlichen Komites nach Westafrika. By R. Schlechter.=*Der Tropenpflanzer*, Berlin. IV-7 (July, 1900.) pp. 324 332.

Die Kabelfrage und die Guttaperchakultur. By Prof. Dr. K. Schumann.=*Der Tropenpflanzer*, Berlin. IV-7 (July, 1900) pp. 333-340.

Guttaperchakultur in Kamerun. By Prof. Dr. O. Warburg.=*Der Tropenpflanzer*, Berlin. IV-7 (July, 1900) pp. 340 342.

RUBBER PLANTING ENTERPRISES.

PROSPECTUS of the Honduras Rubber Co., Los Angeles, California. [12 mo. pamphlet, 16 pages.]

Prospectus of the Palma Real Co., Pittsburgh, Pennsylvania, with estates in Vera Cruz, Mexico. [12 mo. pamphlet, 44 pages.]

NEWS OF THE AMERICAN RUBBER TRADE.

IMPORTANT ORDER FOR TIRE MACHINERY.

AN order which has been received by The Atlantic Rubber Co. (New York) from Great Britain for machines covered by patents owned by that company is probably the largest ever placed in any country for tire making machinery. The inventions referred to cover improvements in appliances for vulcanizing all kinds of pneumatic tires, single tube and detachable; and for the manufacture of inner tubes for tires, of tubing for the manufacture of elastic bands, the lining and covering of rubber hose, and also the insulation of electric wires. This order comes through Mr. Henry J. Doughty, the inventor, and the partner of Mr. Frank N. White in the Atlantic Rubber Co., who has been in Europe for three months past installing machines in eighteen different styles for the manufacture of the rubber goods referred to. The Rubber Machinery Co., Limited, of Manchester, England, control the foreign rights of all these inventions, and a deal has been closed with a large tire manufacturing concern, which, Mr. White feels confident, will lead to the use of these machines in the manufacture of all pneumatic tires, for cycles, motor cars, and other vehicles hereafter in Great Britain. Mr. White will shortly leave for Europe, for an absence probably of a year, to arrange for the use of these machines in Germany, France, Belgium, and Russia, and elsewhere on the continent. Representatives from large rubber manufacturing companies in all these countries are in negotiations for rights under the Atlantic company's patents. Preparations are also being made for the introduction of these machines in the United States. The inventions referred to will be fully described and illustrated, for the first time in any publication, in the next issue of THE INDIA RUBBER WORLD.

UNITED STATES RUBBER CO.

THE directors, at a meeting in New York on July 6, declared the regular quarterly dividend of 2 per cent. on the preferred stock, payable July 31, to shareholders of record on July 14, the disbursement amounting to $470,510. This is the fourth dividend payable out of the earnings for the year ending March 31, and completes the payment of 8 per cent. for the year. No action was taken in regard to a dividend on the common shares, on which already 4 per cent. had been paid for the business year ending March 31. An authorized statement to the press was to the effect that the company had never committed itself to regular dividends on the common stock. "The stockholders at the last annual meeting passed an amendment to the by-laws, practically unanimous, fixing the responsibility on the directors as to the amount to be reserved for surplus. As the earnings cannot now be determined—it being in the middle of the season—the consideration of common stock dividends for this year will go over to a later meeting."

BOSTON RUBBER SHOE CO.

THE Boston Rubber Shoe Co. are preparing to make very material changes in the power plant at factory No. 1, at Edgeworth, which will include several new boilers, and considerably larger and very much needed new engine. Inasmuch as these involve the construction of new boiler and engine houses, it becomes necessary to shut down the works for about two weeks, beginning August 10, during which time the new foundations will be put in, and new steam connections laid out. They expect to resume work on full ticket about August 27. The company have been reported very busy this season, employing some 4500 hands in the two factories.

RUBBER FACTORY FOR SALE.

AN assignment has been made by the Monarch Rubber Co. (Campello, Mass.) to J. Frank Dunbar, of Boston, and Charles C. King, of Campello. It is stated that the assets exceed the liabilities, but that a stringency in the company's affairs grew out of complications with the United States Rubber Works—Edward W. Holt, proprietor—of Brooklyn, N. Y., who had rented factory space and use of machinery, and also with Charles A. Bloomingdale, of New York, who had contracts to fill in supplying the government with army ponchos, after which he proposed making shoes in the plant. The Monarch company began business in 1892, as a limited capital partnership, later becoming incorporated, and for several years enjoyed a profitable trade. The assignees offer the plant for sale, the details appearing in our advertising columns.

GOODYEAR TIRE AND RUBBER CO.

THE contract having been annulled under which The Goodyear Tire and Rubber Co. (Akron, Ohio) have been manufacturing tires for some time past for the Consolidated Rubber Tire Co., the Goodyear company are now making exclusively, in their vehicle tire department, their "wing" tire, which was described in THE INDIA RUBBER WORLD of May 1, 1899 [page 214]. They advise THE INDIA RUBBER WORLD: "During the existence of this contract we discontinued actviely canvassing jor rubber tires, but the trade we had developed previous to the making of this contract, and the contracts we had on hand at the time of its consummation, have netted us an enormous business on this tire, and given us just the opportunity we wanted for thoroughly testing it. It has been in use now about two years, and we have positive evidence that it gives the trade less difficulty and is standing up better than any other tire manufactured."——The Goodyear company have established a New England branch at No. 16 Beverley street, Boston, in charge of Fred W. Suhr.

INDIA-RUBBER CASES IN COURT.

A SUIT is reported to have been filed in the United States circuit court at Cleveland, Ohio, by the Single Tube Automobile and Bicycle Tire Co., for an injunction to restrain the Goodyear Tire and Rubber Co. (Akron, Ohio) from selling tires below the basis agreed upon by the licensees under the Tillinghast patents.——Another suit reported to have been filed in the same court is brought by The American Bicycle Co. against the India Rubber Co. (Akron, Ohio), for alleged failure to deliver 10,000 pairs of bicycle tires within a specified time and at a specified price.

GOSHEN RUBBER CO.

THE organization of this new company, already mentioned in these pages, has been completed by the election of officers as follows: Charles M. Bailey, Marion, Ind., president; Alexander McDonnell, Montpelier, Ind., vice president; H. M. Zehrung, Connersville, Ind., secretary; J. H. Shumaker, Montpelier, Ind., treasurer; G. Nadler, Akron, Ohio, superintendent.

NEW INCORPORATIONS.

BUCKEYE Rubber Co. (Akron, Ohio), June 16, under New Jersey laws, to manufacture solid vehicle tires; capital, $500,-

030. Incorporators: Wendall J. Wright, Demarest, N. J.; Isaac Gans, New York city; Henry A. Bingham, Oradell, N. J. This company was referred to in our July 1 issue.

=U. S. Rubber Reclaiming Works, June 28, under New Jersey laws; capital, $500,000. Incorporators: Thomas V. Robinson, Morrison V. R. Weyant, William H. Brearley, Everett P. Hervey, Eugene E. Speigelberg, all of No. 144 Prevost street, Jersey City, N. J. Further particulars were given in this journal on July 1.

=Excelsior Hard Rubber Co. (Canton, Ohio), June 29, under Ohio laws; capital, $10,000. Incorporators: F. E. Pendler, M. E. Fisher, M. S. Halster, G. R. Pendler, A. V. Fisher. Secretary M. E. Fisher informs THE INDIA RUBBER WORLD that the new company has been at work for about five months, making hard rubber covered harness mountings.

=Chicago Reclaiming Co. (Chicago), June 21, under Illinois laws; capital, $2500. To buy and sell rubber scrap and other waste. Incorporators: Fred K. Fantl, Arthur C. Trumbo, Charles A. Sandberg.

=Rio Patuca Transportation Co. (Chicago), under Illinois laws; July 3 name changed to Tehuantepec Rubber and Commercial Co.; number of directors changed from three to five.

=Boston and Gomerra Rubber Co., June 22, under Maine laws, to deal in rubber lands and their products; capital, $500,000.

=The E. B. Davidson Rubber Co. (Cleveland, Ohio), July 14, under Ohio laws, to manufacture druggists' sundries, waterproof clothing, and other rubber goods; capital, $20,000. Incorporators: E. B. Davidson, C. A. Davidson, H. R. Sanborn, John S. Gorman, George B. Clement. The firm of E. B. Davidson & Co., of Cleveland, have been engaged hitherto in the sale of mill supplies, rubber footwear, and mackintoshes.

=Commonwealth Rubber Co., July 20, under New Jersey laws, to manufacture rubber goods; capital, $50,000. Incorporators: William S. Huffman, Charles R. Luce, Albert E. Knowlton. Principal office: New Jersey Registration and Trust Co. building, East Orange, N. J.

TRADE NEWS NOTES.

DURING the week which embraced the Fourth of July a number of rubber factories, in the shoe and other branches, were closed, for repairs or stock taking and to give the employés the benefit of the holiday. As a rule work was resumed on the Monday following, most of the factories running on full time.

=The new factory of The Milltown (N. J.) India Rubber Co. was struck by lightning on June 27, the chimney being damaged and some of the walls cracked.

=At a meeting of the directors of the Dunlop Tire Co., Limited, at Toronto, Ont., on June 23, a dividend was declared on the preference shares for the first six months of the business year, at the rate of 7 per cent. The good business of the company is attributed in part to the demand for Dunlop carriage tires.

=A newspaper report from Boston attributes the decline in the prices of crude rubber from the higher prices of the early part of the year to the abstinence from buying of the United States Rubber Co. and other shoe manufacturing concerns.

=The Joseph Dixon Crucible Co. at present are running five steam plants in their works at Jersey City, N. J., but it is their intention to concentrate them all into one complete and central power plant. For this purpose they have erected a chimney which ought to interest other steam users on a large scale, and which is described in the company's little journal *Graphite*, which is, altogether, about as readable a paper as any that reaches THE INDIA RUBBER WORLD office.

=Hiram E. Rose has filed suit in the superior court at Indianapolis, Ind., against William D. Owen, president of the Mexican Coffee and Rubber Co., with headquarters in that city, to recover $60,000. Rose alleges that a contract existed whereby he was to receive a commission on the sale of certain lands, and that the same were sold through other agents without his knowledge.

=Fire at Walpole, Mass., on June 13 destroyed the factory of the Massachusetts Chemical Co., who had recently acquired the business founded a year or two ago by R. L. Elwell, to manufacture rubber tape and small rubber goods. The loss is reported at $25,000, only partially covered by insurance. It is reported that work will be resumed near by, to complete the orders now on hand, and that the burnt factory will be rebuilt.

=At the annual meeting of the Easthampton Rubber Thread Co. (Easthampton, Mass.) L. S. Stowe was elected president; F. T. Ryder, secretary; and F. W. Pitcher, general manager.

="Our Head Drummer," sent out by that lusty young giant in rubber shoes, The Hood Rubber Co., is a hit from the first look—an up-to-date jolly rollicking with his dad's tall hat on, hugging a pair of sporting boots nearly as large as himself. The idea is good, and the execution, that is the coloring, fine and expression first class.

=The Wm. H. Wiley & Son Co. (Hartford, Conn.) is a corporation formed to succeed the firm of Wm. H. Wiley & Son, manufacturers of leggings, over gaiters, and wool soles, and also rubber heels.

=The Brighton Mills, owned by J. & W. Lyall, in West Twenty-third street, New York, it is reported, will be removed to Passaic, N. J. This firm is the principal producer in the United States of the cotton fabrics used in pneumatic tires.

=The La Crosse (Wis.) Rubber Mills Co. have petitioned the city council to have the water mains extended to their factory, at Indian Hill, with a view to improving their fire protection.

=Rice & Hutchins, Incorporated, the Boston firm who are distributors of the Model Rubber Co.'s footwear, have a charter from the state of New Jersey, and are capitalized at $758,000.

=Workmen were busy lately removing the plant operated formerly by the Peoria (Ill.) Rubber and Manufacturing Co. It was acquired some months ago by the American Bicycle Co., has not since been operated, and has been sold to various parties. It was not known what would be done with the building.

=The Kelly-Springfield solid rubber vehicle tire was displayed prominently at the sixty-first annual exhibition of the Royal Agricultural Society, at York, England, June 16-22.

=William F. Stevens, selling agent of the Byfield Rubber Co., recently made an extended and successful tour of the western trade.

=The branch house of the Goodyear Rubber Co. at Washington, D. C.—Melville Lindsay, manager—have favored THE INDIA RUBBER WORLD with a copy of the "Life of Charles Goodyear," already mentioned as having been received from another branch of this company, together with circulars issued expressly by the Washington house.

=They are making great preparations at the Meyer Rubber Co.'s factory (New Brunswick, N. J.) for a big year. The orders are coming in early, and many large orders have already been received from people who have not previously handled Meyers. This is the fifty-ninth season of this famous old brand. The Meyer company are making its duck short boots in a new way this year. They make an all-duck boot and a duck vamp boot, with full tap running to the heel, and with a rolled sole. This feature of a rolled tap sole is making the Meyer duck boots more popular this year than ever.

=The personal estate of the late Garret A. Hobart, vice president of the United States, has been appraised at $2,628,941. He held bonds of 26 corporations and owned shares in over a hundred—including the Bloomingdale (N. J.) Soft Rubber Works, of which he was for many years treasurer.

=Rubber tire manufacturers who are interested in making a display at the exhibition of carriage parts and equipment, to be held in connection with the twenty-eighth annual meeting of the Carriage Builders' National Association, in New York, during the week commencing October 15 next, can obtain particulars from the Secretary, Henry C. McLear, Wilmington, Del.

=A game of baseball was played on Staten Island on July 7, between two teams made up from the New York office force of the United States Rubber Co. The married men defeated the single men by a score of 9 to 8.

=Barberton, Ohio, will have, in the next twenty days, a plant fitted for the manufacture of pure gum gloves, nipples, finger cots, ice caps, tobacco pouches and specialties of that kind. The goods will be seamless, and the company manufacturing them will be known as The Pure Gum Specialty Co.

=The Goodyear Rubber Co., St. Paul branch, have presented the St. Paul city library with an outfit of rubber matting for the stairways, of superior quality and specially made.

=The Boston Cycle Co., large jobbers, have assigned to J. Frank Dunbar, treasurer of the Newton Rubber Works, and J. F. Libby, a lawyer of Boston.

=W. R. Blowers, lately superintendent of The Durham Rubber Co., Limited (Bowmanville, Ont.), has accepted the appointment of assistant general manager of the United and Globe Rubber Manufacturing Cos., of Trenton, N. J. All the workers in the Trenton establishment, by the way, are "hustlers," and in consequence the company are enjoying a very liberal patronage from railways throughout the United States.

=The New Jersey rubber shoe samples for this season are being very much complimented in the trade. The Jersey company have introduced an entirely new line of shapely lasts. "Jerseys" have always been popular goods, and the season just opening bids fair to see a larger output than any former season.

=The old brands of rubbers that have been so popular in this country for a great many years—"Candee," "Wales-Goodyear," "American," and "Woonsocket"—are each year growing more popular across the Atlantic. The United States Rubber Co. did quite a heavy export business last year in these old brands, and, judging from the early orders already received, this year's export business will greatly exceed last year's.

=The Candee Rubber Co. are running on a very good ticket, and, notwithstanding that it is early in the season, they are receiving good sized orders.

=Fritz Achelis, president of the American Hard Rubber Co. (New York), is spending a few weeks in Europe.

=E. H. Broadwell, for three years past manager of H. A. Lozier & Co.'s bicycle branch house at Detroit, Mich., will, it is reported, resign that position to organize at Detroit a distributing branch for the Fisk Rubber Co., manufacturers of tires, at Chicopee Falls, Mass.

=The card of the Canton Rubber Co. (Canton, Ohio), which appears in our advertising pages this month, calls attention to a new rubber manufactory in the line of seamless specialties, such as gloves, finger cots, and druggists' sundries. Mr. H. L. Miller, who was formerly connected with the Miller Rubber Manufacturing Co., of Akron, has identified himself with the new concern.

=The Monarch Rubber Co. (St. Louis) are reported to have orders in hand to cover their output at the present rate until the end of the year. They purpose increasing their capacity, however, by the middle of this month, to 6000 pairs per day.

=The Apsley Rubber Co. (Hudson, Mass.) shipped 50,000 pairs of rubber shoes on July 14. The manufacture of a large quantity of rubber boots was begun on the same date.

=All the rubber footwear factories are in operation except the "Alice" mill of the Woonsocket Rubber Co. At the latest advices it was uncertain whether this mill would resume work on August 1.

BOSTON RUBBER SHOE EXPORTS FOR JUNE.

	Pairs.	Value.	Value, 1899.
To England	14,144	$7,640	$5,301
To Spain	12,699	5,980	....
To Nova Scotia	192	132	314
To Miquelon	24	66	....
To Newfoundland	12	32	9
To British Africa	....	....	180
To Quebec	....	....	28
Total	27,071	$13,850	$5,832

A. R. DURYEE GOES TO EUROPE.

THE subject of this sketch began his connection with the rubber industry in 1896, in the factory of the Combination Rubber Co., then located in East Twenty-fourth street, New York, the president of the company, the late John Greacen, being an uncle of Mr. Duryee. He spent several years with this company, which in time became the Combination Roll and Rubber Co., going with them first to Montville and later to Bloomfield, N. J., and gaining experience in the manufacture of a wide range of rubber goods. He left their employ during one year of this period to study the manufacture of druggists' sundries with the Mattson Rubber Co., in New York. In 1884 he went to the factory of the Boston Woven Hose Co., since the Boston Woven Hose and Rubber Co., with whom he remained until the middle of the present year. In 1888 he became assistant superintendent at this factory, and in 1892 was made superintendent of the tire and mechanical goods departments. In this position he contributed materially to the development of improvements in tires. For a while he filled a position in the company's Boston office in the interest of tires and also travelled a short time in the same interest. After the reorganization of the company, last year, and the manufacture of druggists' sundries was taken on, Mr. Duryee was made superintendent of this branch. He resigned this position to accept a place in the Asbest- und Gummi-werke Alfred Calmon Actiengesellschaft, Hamburg, Germany, and sailed from New York on July 17 to take charge of his new duties. Mr. Duryee was married while living in New Jersey. He was elected recently president of the Middlesex Cycle Club, Cambridgeport.

A. R. DURYEE.

CONCERNING RHEA RUBBER.

THERE is no progress to report this month in relation to the movement, reported in the last INDIA RUBBER WORLD, to organize a company in the United States to exploit "Rhea rubber." Information has not been forthcoming readily from the parties most directly interested. The patent specifications covering the new invention not having been printed, the patentee, Mr. William James Cordner, of London, was applied to for details. He referred the inquiry to a Boston firm who have acquired the American and Canadian patent rights, and who have not availed themselves of the opportunity to make known more fully the character of the new material.

In the last INDIA RUBBER WORLD mention was made of the interest of Mr. Frederic Lamprough, the inventor of the substitute called "Volenite," in the exploitation of "Rhea rubber" in America. Our London contemporary notes that on July 4 was held in London a special meeting of the shareholders of Volenite, Limited—a company having £79,000 subscribed capital—to consider a proposition from the Rhea syndicate for the purchase of their property, for £12,500 in cash and £112,500 in shares of a new £500,000 company to be formed. The offer was not accepted.

Mr. Lyster H. Dewey, of the division of botany of the United States department of agriculture, writes to THE INDIA RUBBER WORLD: "If the experiments made with this material [the rhea or ramie gum] prove successful, it will undoubtedly give an impetus to the cultivation of ramie in the southern states." It may be mentioned that much interest has been felt already in the cultivation of ramie in the United States, but the expense of manipulating it has proved discouraging.

U. S. RUBBER RECLAIMING WORKS.

MENTION has been made already in THE INDIA RUBBER WORLD of the amalgamation of the Loewenthal Rubber Co. (Jersey City, N. J.) with the U. S. Rubber Reclaiming Works, which latter corporation title is to be retained. It may be added that both of the factories are to be continued in operation. Lately the Jersey City factory has been added to extensively, and within a month the separator process used for three years past at the Shelton factory has been introduced also at Jersey City.

Under the new management the company are offering a new product, under the brand "Victoria," which is their highest grade of reclaimed rubber, and is believed by the manufacturers not to be excelled by any other in the market.

They are also making a specialty of "White or Drab Rubber," a comparatively new product, besides which the "Acme" and "Matchless" brands will be continued, together with a number of other brands.

Reference to the advertisement of the company, on another page, will show a list of their European agencies.

IT is suggested by *The Wheel* that the advancing of prices of single tube tires has been unwelcome to some of the smaller manufacturers, for the reason that these prices are binding on all the Tillinghast licensees alike, and the smaller makers argue in this way: "If a man is given the choice of tires, he is very liable to pick out the goods of a big, well advertised maker, with an old reputation and known guarantee, in preference to us." At any rate it is no longer open to any firm, large or small, to attempt to gain trade by offering concessions in the way of prices.

NEW TRADE PUBLICATIONS.

THE APSLEY RUBBER CO. (Hudson, Mass.) have issued their first illustrated Catalogue and Price List of Rubber Boots and Shoes, for the season of 1900–01. It embraces a varied line of goods, in first and second grades, at prices and discounts corresponding to those of the older manufacturers. In appearance the catalogue compares favorably with the most attractive published by any other company. [3¼×6". 40 pages.]

WE regret not to have space in THE INDIA RUBBER WORLD for the whole of a booklet issued by THE B. F. GOODRICH CO., (Akron, Ohio), entitled "All the Qualifications," and devoted to garden hose. But our readers will not necessarily suffer a loss on this account, because copies can be had gratis for the asking. A specimen illustration represents a southern darkey bearing on his head a mammoth dish on which is a Virginia cured ham so shaped as to suggest at once a profile map of the state of Virginia, while in front a smaller darkey, bearing on his back a barrel labeled with a revenue stamp, is handing to a Virginia gentleman of colonial times one end of a rubber hose with which to refill his glass from the contents of the barrel. Incidentally, the name of a particular brand of hose appears on this page, with some mention of its qualifications. Maps of nine other states appear in equally original treatment in illustrating other brands of hose. [3½"×8". 24 pages]—Another recent example of Artist Clarke's handiwork is a large picture of "The Goodrich Rubber Man's Vacation," which represents the said rubber man "getting his money's worth" in the way of enjoyment in the grand old Moorish palace, the Alhambra, in "the time when knighthood was the thing."

THE MONARCH RUBBER CO. (St. Louis, Mo.), in sending out their first catalogue of rubber boots and shoes, for the season of 1900–01, mention that its issue has been delayed until it could present illustrations of the actual productions of their new factory. The illustrations referred to are sixty in number, engraved from photographs, and they cannot fail to attract favorable attention to the goods made in St. Louis. A wide range of boots and shoes is shown, with prices. The printing and general appearance of the catalogues can be commended highly. [4½"×6". 47 pages.]

B. C. TILLINGHAST (No. 242 Market street, Philadelphia) has issued a handsome illustrated catalogue of Mechanical Rubber Goods, Fire Hose and Appliances, Mats, Mattings, etc., which he keeps in stock. [6"×9¼". 64 pages.]

THE two hundredth anniversary of the town of South Framingham, Mass., was celebrated with elaborate ceremonies during the week of June 10 15. John Drew Thomas, who was superintendent of the old Pará Rubber Shoe Co. in that town, came home from England to be present. The prize offered by the school authorities for an essay on the history of the town was awarded to Miss Helen Hazel Videto, daughter of John F. Videto, of the Conant Rubber Co.

IT is announced that an international exhibition of apparatus and appliances for fire protection will be held in 1901 in Berlin, under the patronage of Count Podbielsky, the German postmaster general. Special departments will be opened for India-rubber and asbestos goods. Exhibits are to be invited from all countries.

WHAT will be said of the efficiency of the fire hose owned by the village of Farmington, N. J., 900 feet of which was destroyed by a fire in the hose house there the other night?

SOME FOREIGN NOTES.

THERE was advertised to be sold, on July 11, the plant at Belvedere, Kent, England, the factory premises of The Gutta-Percha Corporation, Limited, by order of Edwin Hayes, the receiver appointed several months ago in court proceedings. This company was registered in December, 1897, with £200,000 capital, to work the Sérullas patents for extracting Gutta-percha from dried leaves. By the way, the difficulties in the way of carrying on such a business are suggested by the fact that in a recent letter to THE INDIA RUBBER WORLD from Singapore, transmitting specimens of Gutta-percha made from leaves by another process, it is stated that 69 tons of dried leaves are required for the production of one ton of the finished material.

=The registered offices of the Eccles Rubber and Cycle Co., Limited, have been removed from Eccles, near Manchester, where their factory is located, to 51, Old Hall street, Liverpool. The company have also opened a Liverpool depot, in charge of W. J. Pickering, lately of the rubber trade in Birmingham.

=The death is announced of Alfred Pegler, founder and head of the Northern Rubber Co., of Retford, Notts, England, having occurred on July 1. Mr. Pegler was in his seventy-ninth year.

=Fenton's Artificial India-rubber Syndicate, Limited, of London, THE INDIA RUBBER WORLD is advised, is about to be liquidated.

=The directors of Callender's Cable and Construction Co., Limited (London), report a profit for the last fiscal year of £41,966. The dividends for the year amount to 5 per cent. on the preference and 15 per cent. on the ordinary shares, the issue of each amounting to 20,000, or a total capital of £200,000 (=$1,000,000). The reserve fund is increased £10,000, and the amount carried over is £8221.

RUBBER SHOES AT GRAND RAPIDS.

THE Grand Rapids (Mich.) Felt Boot Co. began washing crude rubber at their new rubber footwear factory on July 25, and expect to begin manufacturing goods by September 1. They will make two qualities. The first quality will be branded, around a circle, "Grand Rapids Felt Boot Co., Grand Rapids," with the State coat of arms inside the circle. The second quality will be branded "Wolverine Rubber Co.," around an ellipse, inside of which will be a cut of a wolf. Goods will be sold through jobbers, either alone or combined with felt boots, as desired.

REVIEW OF THE CRUDE RUBBER MARKET.

THE general condition of the crude rubber market for a month past has been one of quiet, with a tendency toward easier prices. Spot prices for new Islands fine rubber declined from the first to the middle of the month to the extent of 3 or 4 cents a pound, since which time the market for this grade has been about stationary. The net decline in new Upriver fine has been somewhat less pronounced, while prices for the coarse sorts have been better maintained. The customary statistical showing is presented on this page, as likely to throw more light upon the situation than any mere comment.

Quotations in the New York market July 30 were:

PARÁ.		AFRICAN.	
Islands, fine, new	89 @90	Tongues	57 @58
Islands, fine, old	91 @92	Sierra Leone	71 @72
Upriver, fine, new	93 @94	Benguella	60 @61
Upriver, fine, old	95 @96	Congo ball	57 @58
Islands, coarse, new	51 @52	Cameroon ball	58 @59
Islands, coarse, old	none here	Flake and lumps	46 @47
Upriver, coarse, new	66 @67	Accra flake	19 @20
Upriver, coarse, old	67 @68	Accra buttons	58 @59
Caucho (Peruvian) sheet	50 @51	Accra strips	61 @62
Caucho (Peruvian) strip	none imported now.	Lagos buttons	57 @58
Caucho (Peruvian) ball	56 @59	Lagos strips	60 @61
CENTRALS.		Liberian flake	@
Esmeralda, sausage	56 @57	Madagascar, pinky	@
Guayaquil, strip	48 @49	Madagascar, black	@
Nicaragua, scrap	55 @56	GUTTA-PERCHA.	
Mangabeira, sheet	50 @51	Fine grade	1.75
EAST INDIAN.		Medium	1.45
Assam	81 @82	Hard white	1.20
Borneo	35 @48	Lower sorts	65
		Balata	

Late Pará cables quote:

	Per Kilo		Per Kilo
Islands, fine	6$250	Upriver, fine	6$750
Islands, coarse	2$550	Upriver, coarse	4$550

Exchange 11 7/16 *d.*

NEW YORK RUBBER PRICES FOR MAY. (NEW RUBBER.)

	1900.	1899.	1898.
Upriver fine	89 @1.02	99 @1.02	94 @95
Upriver coarse	65 @ 75	82 @ 86⅛	73⅛@75½
Islands fine	87 @ 99	99 @1.01½	92 @93
Islands coarse	47 @ 61	67 @ 71	63 @65
Cametá coarse	56 @ 65	69 @ 72	68½@69½

NEW YORK RUBBER PRICES FOR JUNE (NEW RUBBER.)

	1900.	1899.	1898.
Upriver fine	89 @ 97	97 @1.01	95 @97
Upriver coarse	65 @ 72	77 @ 83	75 @80
Islands fine	87 @ 95	95 @ 98	92½@96
Islands coarse	47 @ 55	63 @ 66	64 @65
Cametá coarse	55 @ 60	65 @ 68	69 @71

STATISTICS OF PARA RUBBER (METRIC TONS).

NEW YORK.

	Fine and Medium.	Coarse.	Total. 1900.	Total 1899.	Total 1898.
Stocks, May 31	542	87 =	629	447	277
Arrivals, June	584	309 =	893	431	281
Aggregating	1126	396 =	1522	878	558
Deliveries, June	624	295 =	919	460	396
Stocks, June 30	502	101 =	603	418	162

	PARÁ.			ENGLAND.		
	1900.	1899.	1898.	1900.	1899.	1898.
Stocks, May 31	590	520	103	1675	1145	795
Arrivals, June	1015	1070	850	675	505	350
Aggregating	1605	1590	953	2350	1650	1145
Deliveries, June	1445	1250	723	875	650	420
Stocks, June 30	160	340	230	1475	1000	725

	1900.	1899.	1898.
World's supply, June 30 (excluding Caucho)	3034	2204	1506
Pará receipts, July 1 to June 30	26,791	25,355	22,320
Afloat from Pará to United States, June 30	108	126	
Afloat from Pará to Europe, June 30	688	300	

In regard to the financial situation, Albert B. Beers (broker in India-rubber and commercial paper, No. 58 William street, New York) advises us:

"During July the demand for paper has not been as large as in June, but rates have ruled about the same, namely, 4@5 per cent. for the best rubber names, and 5½@6 per cent. for those not so well known."

BRITISH EXPORTS OF RUBBER GOODS.

BRITISH exports of rubber manufactures for the six months January to June, inclusive, have been as follows during the past three years:

In 1898.	£645,476	=$3,227,380
In 1899.	674,877	= 3,374,385
In 1900.	723,476	= 3,617,380

CANADA BUYS MORE RUBBER GOODS.

THE imports of manufactures of India-rubber and Gutta-percha into Canada, officially stated, for the periods described below, indicate a considerable rate of increase:

	Value.	Duties Collected.
July 1–December 31, 1898	$202,294	$ 55,600.09
July 1–December 31, 1899	227,903	63,415.54
July 1–May 31, 1899	424,333	115,885.32
July 1–May 31, 1900	488,582	135,232.41

RUBBER SCRAP LOWER.

THERE has been a slight fall in quotations for rubber scrap during the month. Sales have been reported as high as 9 cents for old shoes in large lots, but the closing prices are reported at 8½ @ 8¾ cents. The decline is of interest chiefly as indicating a downward tendency in the market. Consumption has fallen off somewhat as compared with last season, while collections have become more active year by year, pointing to the probable holding in stock, particularly in the west, of large quantities of scrap. Unless there should be an unlooked for increase in consumption therefore, very shortly, the indications are that prices for scrap will be lower before there is another advance.

ANTWERP.

ANTWERP RUBBER STATISTICS FOR JUNE.

DETAILS.	1900.	1899.	1898.	1897.	1896.
Stocks, May 31..kilos	877,626	503,350	190,263	120,766	60,940
Arrivals, June	282,176	418,266	124,532	166,651	66,965
Aggregating	1,159,802	921,616	314,795	287,417	127,905
Sales in June	433,426	417,619	189,130	119,238	76,910
Stocks, June 30	726,376	503,997	125,665	168,179	50,995
Arrivals since Jan. 1	3,011,463	1,848,952	866,055	749,242	324,057
Sales since January 1	2,577,078	1,608,295	834,853	720,332	361,919

ARRIVALS AT ANTWERP.

JUNE 26.—By the steamer *Philippeville:*

Bunge & Co.....kilograms	4,562	
Bunge & Co. (Plantations Lacourt)	6,192	
Bunge & Co. (La Djuma)	991	
Société Coloniale Anversoise (Lomami)	14,580	
Cie. Commerciale des Colonies (La Kassaienne)	5,310	
L. & W. Van de Velde	1,529	
Ch. Dethier (Belgika)	9,375	42,539

JULY 10.—By the steamer *Bruxellesville:*

Bunge & Co.....kilograms	122,508	
Bunge & Co. (Société Anversoise)	16,000	
Bunge & Co (Plantations Lacourt)	5,256	
A B I R	94,224	
Comptoir Commercial Congolais	11,853	
Crédit Commercial Congolais (La Lulonga)	1,085	
Cie. Commerciale des Colonies (La Kassaienne)	1,896	
Société Coloniale Anversoise (Haut Congo)	44,663	
Société Coloniale Anversoise (Lomami)	18,224	
Société Coloniale Anversoise (Andréa)	2,080	
Sté Anonyme pour le Commerce Colonial (Est de Kwango)	1,052	
Divers	20,000	338,841

LIVERPOOL.

WILLIAM WRIGHT & CO. report [July 2] in regard to fine Pará: The forced decline of last month has been succeeded by an equally sharp recovery, and the market closes exceedingly firm, with strong indications of a further advance. This is due to active buying in Pará on both American and European account, and also to the fear that the present high rate of exchange (which is likely to continue) will affect the gathering of next season's crop. We are inclined to think a further sharp rise will be registered during the next two months.

HAMBURG.

TO THE EDITOR OF THE INDIA RUBBER WORLD: During the past fortnight the market for India-rubber became much more quiet. The large offers of Peruvian balls and slabs pressed on the prices of similar kinds of rubber. Our manufacturers, who bought freely during the end of last month, were disappointed by the lower Pará quotations, and it does not look as if the higher Brazil exchange will bring better prices in Pará itself. Current quotations in this market are given herewith, compared with prices during the latter part of June, in marks per kilogram:

	July 9.	June 22.
Mollendo fine	M	M 8.65
Bolivian negroheads	....	6.80
Mozambique balls, I	6.20@6.40	6.50@7.80
Bissao	3.50@5.20	5.25@6.30
Lome I	5.30	
Lome II	4.50	5.80
Santos Mangabeira, fine	....	5.30
do low	....	4.50
Bahia Mangabeira	3.90	
Kamerun balls	...	5.25
Guatemala slabs	4.25	4.30
Accra lumps	..	3.90
Madagascar niggers	2.60	....

About 30 tons have been sold during the week ending with this date.

Hamburg, July 9, 1900.

PARA.

KANTHACK & CO. report [June 30]: In spite of the appearance of favorable points, the situation has gradually become quite distressing, not from absence of demand or disappointing changes at the consuming centres, but from the continued advance of exchange, which lately has been as persistent as it has been rapid and serious, having not only affected currency prices to an extraordinary extent, but also exercised a most deplorable influence on the trade of this district. While sterling values have advanced fully 5 per cent. during the last month, currency prices have, on the other hand, declined more than 15 per cent., a state of affairs which denotes a disastrous result of this country's instability of exchange. The present quotations are nominally—

Pará fine,	84¼	cents against	84	cents	Same time
Pará coarse,	33	" "	45½	"	last year,
Upriver fine,	95¼	" "	94	"	per pound, f.o.b.,
Upriver coarse,	55	" "	67	"	not including
Caucho slabs,	46¾	" "	56½	"	shrinkage, freight,
Caucho balls,	56¾	" "	66¼	"	and insurance.

The rate for exchange closes to day at 11⅛ *d.* for 90 days sight on London.

The same firm report later [July 10]: For want of stocks and in consequence of small supplies, as usual at the beginning of the new crop season, business has been slack, the market being all the more depressed from the enormous and rapid rise of exchange. Currency prices, although representing a fair value, as compared with the quotations from the consuming markets, are very disappointing to sellers from the influence of high exchange. As to trade and the prospects of the coming

crop, there is at present sufficient reason for taking a very gloomy view of the situation. It is, however, generally believed that the rise in exchange, although it may yet continue for some time, is too artificial to last. The present quotations are, nominally:

Pará fine,	79	cents against	87½ cents	Same time
Pará coarse,	28⅛	" "	48 "	last year,
Upriver fine,	92	" "	98½ "	per pound, f. o. b.,
Upriver coarse,	54	" "	69¼ "	not including
Caucho slabs,	44⅛	" "	59 "	shrinkage, freight,
Caucho balls,	54½	" "	68¾ "	and insurance.

Exchange advanced rapidly until reaching 14½*d.*, since when a drop has taken place within three days to 11*d.*, transactions being almost at a standstill for the moment.

BRITISH IMPORTS OF INDIA-RUBBER.

[JANUARY 1 TO MAY 31—OFFICIALLY REPORTED.]

	1898.	1899.	1900.
Imports .....pounds.	24,793,552	23,197,104	27,330,240
Exports	13,946,352	15,008,336	14,225,680
Net imports.....	10,847,200	8,188,768	13,104,560
GUTTA-PERCHA.			
Imports	2,559,536	2,666,944	5,057,360
Exports	297,920	408,576	317,632
Net imports.....	2,261,616	2,258,368	4,739,728

[JANUARY 1 TO JUNE 30—OFFICIALLY REPORTED.]

	1898.	1899.	1900.
Imports..... pounds.	28,858,032	26,978,000	33,326,832
Exports	16,308,320	17,110,688	16,835,840
Net imports	12,549,712	9,867,312	16,490,992
GUTTA-PERCHA.			
Imports	3,330,656	3,383,632	6,320,608
Exports.....	372,064	477,456	535,472
Net imports.....	2,958,592	2,906,176	5,785,136

Add Publisher's Page.

SANTOS, BRAZIL.

SHIPMENTS OF MANGABEIRA RUBBER, MAY.

By Schlodtmann & Arnold.....	42,242 kilograms
" Theodor Wille & Co.....	4,099 "
" Schmidt & Trost	1,130 "
" J. Moreira Sampaio.....	330 "
Total	47,801 "

IMPORTS FROM PARA AT NEW YORK.

[*All Figures Denote Pounds.*]

June 28.—By the steamer *Benedict*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Albert T. Morse & Co...	20,600	4,000	12,800	89,900=	127,300
Reimers & Co.....	72,700	10,700	40,800	.....=	124,200
New York Commercial Co.	27,200	6,000	21,000	26,600=	80,800
Crude Rubber Co.....	37,800	4,000	13,800	.....=	55,600
Lawrence Johnson & Co..	12,000	1,100	6,400	.....=	19,500
Otto G. Mayer & Co.....	.....	.....	3,800	.....=	3,800
Total.....	170,300	25,800	98,600	116,500=	411,200

July 12.—By the steamer *Sobralense*, from Manáos and Pará:

Crude Rubber Co.....	63,200	11,400	21,300	200=	96,100
Reimers & Co.....	21,600	5,300	24,500	37,000=	88,400
New York Commercial Co.	17,000	2,800	20,200	4,800=	44,800
Albert T. Morse & Co....	.....	.....	.....	36,400=	36,400
Otto G. Mayer & Co....	.....	.....	13,300	.....=	13,300
George G. Cowl.....	3,900	2,200	4,400	3,900=	14,400
Total	105,700	21,700	83,700	82,300=	293,400

July 23.—By the steamer *Basil*, from Manáos and Pará:

Crude Rubber Co.....	84,500	14,300	34,900	2,600=	136,300
Reimers & Co.	51,500	24,400	39,700	1,600=	117,200
New York Commercial Co.	36,300	3,700	43,800	7,300=	91,100
G. Amsinck & Co.....	21,300	8,100	7,600	20,000=	57,000
George G. Cowl	5,000	300	500	500=	6,300
Hagemeyer & Brunn.....	4,900	.....	1,200	....=	6,100
Albert T. Morse & Co....	.....	.....	5,700	.....=	5,700
Otto G. Mayer & Co. ...	3,700	1,800	.....	.....=	5,500
Edmund Reeks & Co....	100	.....	1,300	.....=	1,400
Total...	207,300	52,600	134,700	32,000=	426,600

NOTE.—The steamer *Hildebrand*, is due at New York on August 2, having on board 100 tons fine and coarse Pará rubber and 10 tons Caucho.]

PARA RUBBER VIA EUROPE.

	POUNDS.	
JUNE 25.—By the *La Aquitaine*=Havre:		
Otto G. Mayer & Co. (Caucho).....	30,000	
Otto G. Mayer & Co. (Coarse)... ...	5,500	35,500
JUNE 28.—By the *Majestic*=Liverpool:		
Crude Rubber Co. (Fine)..... ...	95,000	
Reimers & Co. (Coarse)..	4,000	99,000
JULY 5.—By the *Oceanic*=Liverpool:		
Reimers & Co. (Coarse)..... . ..		13,300
JULY 9.—By the *La Gascogne*=Havre:		
Otto G. Mayer & Co. (Coarse)		22,500
JULY 16.—By the *La Bretagne*=Havre:		
Reimers & Co. (Fine).....	22,500	
George A. Alden & Co. (Fine).....	22,500	45,000
JULY 16.—By the *Servia*=Liverpool:		
George A. Alden & Co. (Caucho)....	68,000	
Crude Rubber Co. (Caucho).....	68,000	136,000
JULY 16.—By the *Philadelphian*=Liverpool:		
George A. Alden & Co. (Caucho).....	95,000	
Crude Rubber Co. (Caucho).....	95,000	190,000
JULY 21.—By the *Lucania*=Liverpool:		
George A. Alden & Co. (Caucho) ...	2,500	
Crude Rubber Co. (Caucho).....	2,500	5,000

OTHER IMPORTS AT NEW YORK.

CENTRALS.

	POUNDS.	
JUNE 25.—By the *Proteus*=New Orleans:		
Albert T. Morse & Co....	2,500	
Manhattan R. Mfg. Co.....	2,500	5,000
JUNE 26.—By the *Alamo*=Colon:		
Czarnikow, McDougal & Co.....	3,000	
Flint, Eddy & Co.	1,400	
G. Amsinck & Co.....	1,400	
Dumarest & Co.	1,000	
Middleton & Co.....	100	
Hirzel, Feltman & Co.....	100	7,400
JUNE 26.—By the *Alleghany*=Port Limon:		
Guiterman, Rosenfeld & Co.....	1 200	
G. Amsinck & Co.....	1,200	
W. H. Crossman & Bro	100	2,500
JUNE 26.—By the *Mozart*=Pernambuco:		
Lawrence Johnson & Co.....	3,500	
J. H. Rossbach & Bros	2,700	6,200
JUNE 28.—By the *Majestic*=Liverpool:		
Reimers & Co.....		9,000
JUNE 30.—By *El Cid*=New Orleans:		
F. Nieto & Co.....	2,000	
T. N. Morgan.....	1,000	3,000
JUNE 30.—By the *Phœnicia*=Hamburg:		
J. H. Rossbach & Bros.....		14,000
JUNE 30.—By the *Yucatan*=Mexico:		
E. Steiger & Co	1,500	
H. Marquardt & Co	1,500	
F. Probst & Co.	1,000	
Flint, Eddy & Co	200	4,200
JULY 2.—By the *St. Louis*=Southampton:		
Otto G. Mayer & Co..... ...		3,800
JULY 2.—By the *Altai*=Greytown:		
A. P. Strout.....	5,000	
Andreas & Co	1,700	
G. Amsinck & Co.	800	7,500
JULY 2.—By the *Etruria*=Liverpool:		
Livesey & Co.....	2,400	
Otto G. Mayer & Co.....	8,500	10,900
JULY 2.—By the *Somerhill*=Colon:		
Hirzel, Feltman & Co.....	9,500	
G. Amsinck & Co.....	7,700	
Dumarest & Co.....	2,000	
Czarnikow, McDougall & Co..... .	3,000	
Roldan & Van Sickel.....	2,600	
Jimenez & Escobar.....	1,500	
D. N. Carrington & Co.....	200	27,500
JULY 3.—By the *Alliance*=Colon:		
G. Amsinck & Co	3,300	
Kunhardt & Co	1,400	
F. Nieto & Co....	1,100	
A. P. Strout	800	
F. Halberstedt & Co.....	600	
W. R. Grace & Co	600	
Jimenez & Escobar..... ...	500	
Ellinger Bros.....	400	
Lanman & Kemp	300	
R. G. Barthold.....	300	
Scott & Bowne..... .	100	9,400
JULY 9.—By the *Mayke'yne*=Pernambuco:		
Lawrence Johnson & Co.....		7,500
JULY 10.—By *El Mar*=New Orleans:		
A. T. Morse & Co....	6,500	
W. V. Kreamer.....	1,000	7,500
JULY 10.—By the *Alene*=Cartagena:		
G. Amsinck & Co....	5,000	
Joaquin Ferro.....	3,500	
Punderford & Co.	3,500	
Kunhardt & Co	2,200	
D. A. De Lima & Co.....	3,500	
Jimenez & Escobar	1,000	
United Fruit Co	1,300	
For London.....	1,500	21,500
JULY 10.—By the *Advance*=Colon:		
Neuss Hesslein & Co...	2,400	
Lanman & Kemp.....	2,300	
G. Amsinck & Co.....	2,300	
Crude Rubber Co.....	2,000	
W. Loaiza & Co.....	1,600	
A. P. Strout.....	1,500	
L. N. Chemedlin & Co..... .	1,200	
Kunhardt & Co.....	900	
C. Wessels & Co	900	
Lazard Freres..	700	
W. L. Rathbun & Co...	400	
W. R. Grace & Co	300	
R. G. Barthold.....	100	16,600
JULY 13.—By the *Prins Willem I.*=Trinidad:		
Thebaud Bros. (Angostura Fine) ...	14,000	
Thebaud Bros. (Angostura Coarse) .	5,000	19,000
JULY 14.—By the *Orizaba*=Mexico:		
Graham, Hinckley & Co.....	200	
H. Marquardt & Co.....	200	
For Europe..	1,100	1,50
JULY 14.—By the *Pretoria*=Hamburg:		
Livesey & Co.....		7,70
JULY 14.—By the *St. Paul*=Southampton:		
Abe Stein & Co.....	7,600	
JULY 14.—By *El Sud*=New Orleans:		
W. R. Grace & Co.....	8,500	
Albert T. Morse & Co.....	3,000	11,5

JULY 17.—By the *Finance*=Colon:

G. Amsinck & Co.	2,000	
Lazard Freres	600	
Lanman & Kemp	500	3,100

JULY 17.—By the *Athos*=Greytown:

A. P. Strout	4,000	
G. Amsinck & Co.	2,500	
A. N. Rotholz	1,000	
H. W. T. Mali & Co	1,000	
Pomares & Cushman	100	8,600

JULY 18.—By the *Bellanoch*=Bahia:

N. Y. Commercial Co.	12,000	
L. Johnson & Co.	4,000	16,000

JULY 19.—By the *Themis*=Belize.

F. Halberstedt & Co	3,500	
Eggers & Heinlein	1,500	
Guiterman, Rosenfeld & Co	500	5,500

JULY 21.—By the *Seguranca*=Mexico:

H. Marquardt & Co	7,000	
E. Steiger & Co.	3,500	
P. Harmony Nephews & Co	1,500	
L. N. Chemedlin & Co.	300	
F. Probst & Co	500	
J. W. Wupperman	200	
Thebaud Brothers	200	13,200

JULY 23.—By the *Comus*=New Orleans:

W. R. Grace & Co.	15,000	
A. N. Rotholz	2,000	
A. T. Morse & Co.	2,000	19,000

JULY 24.—By the *Alleghany*=Cartagena:

S. Samper & Co.	1,200	
New York Commercial Co.	1,000	
Kunhardt & Co.	500	
For London	1,200	3,900

AFRICANS.

	POUNDS.	
JUNE 22.—By the *Graf Waldersee*=Hamburg:		
Reimers & Co		51,000
JUNE 27.—By the *Kensington*=Antwerp:		
George A. Alden & Co.	26,500	
Crude Rubber Co.	26,500	53,000
JUNE 28.—By the *Majestic*=Liverpool:		
Crude Rubber Co	12,000	
George A. Alden & Co.	12,500	
Reimers & Co.	7,000	31,500
JUNE 30.—By the *Phœnicia*=Hamburg:		
Albert T. Morse & Co.	11,000	
Reimers & Co.	3,000	14,000
JULY 2.—By the *St. Louis*=Southampton:		
Reimers & Co.		4,500
JULY 2.—By the *Etruria*=Liverpool:		
George A. Alden & Co.	53,000	
Crude Rubber Co	53,000	
Livesey & Co.	30,000	
Reimers & Co	9,000	145,000
JULY 5.—By the *Oceanic*=Liverpool:		
Reimers & Co.	16,000	
George A. Alden & Co.	6,000	
Crude Rubber Co.	6,000	28,000
JULY 5.—By the *Noordland*=Antwerp:		
A. T. Morse & Co.	90,000	
Joseph Cantor	11,000	
Reimers & Co.	4,500	105,500
JULY 6.—By the *Pennsylvania*=Hamburg:		
Reimers & Co.		14,500
JULY 10.—By the *Statendam*=Rotterdam:		
Otto G. Mayer & Co.		4,200
JULY 11.—By the *Friesland*=Antwerp:		
George A. Alden & Co.	32,000	
Crude Rubber Co.	32,000	
A. T. Morse & Co.	30,000	94,000
JULY 14.—By the *Pretoria*=Hamburg:		
Reimers & Co.		4,500
JULY 16.—By the *Servia*=Liverpool:		
George A. Alden & Co.	27,000	
Crude Rubber Co	20,000	
Livesey & Co	15,000	
William Wright & Co.	22,000	
Reimers & Co.	3,000	
William Wright & Co.	2,000	89,000
JULY 19.—By the *Peninsular*=Lisbon:		
Reimers & Co.	48,000	
Otto G. Mayer & Co.	22,500	70,500
JULY 20.—By the *Germanic*=Liverpool:		
George A. Alden & Co.	11,000	
Crude Rubber Co.	11,000	
Livesey & Co.	11,000	
Reimers & Co.	3,500	36,500
JULY 20.—By the *Palatia*=Hamburg:		
Reimers & Co.	55,000	
George A. Alden & Co.	27,000	82,000
JULY 21.—By the *Lucania*=Liverpool:		
George A. Alden & Co.	63,000	
Crude Rubber Co.	63,000	
Albert T. Morse & Co.	5,500	131,500

EAST INDIAN.

	POUNDS.	
JULY 2.—By the *Auchenarden*=Calcutta:		
George A. Alden & Co.		19,000
JULY 6.—By the *Clan Cumming*=Calcutta:		
Reimers & Co.		12,000
JULY 6.—By the *Sirdar*=Calcutta:		
Reimers & Co.		17,000
JULY 2.—By the *St. Louis*=Southampton:		
Otto G. Mayer & Co. (Pontianak)		2,500
JULY 7.—By the *European*=London:		
Otto G. Mayer & Co. (Pontianak)		3,500
JULY 23.—By the *Menominee*=London:		
Otto G. Mayer & Co. (Pontianak)		5,500

GUTTA-PERCHA AND BALATA.

	POUNDS.	
JULY 11.—By the *Tauric*=Liverpool:		
R. L. Johnstone & Co.		2,500
JULY 14.—By the *St. Paul*=Southampton:		
F. L. Kreamer		1,100
JULY 16.—By the *Servia*=Liverpool:		
R. Crooks & Co.		2,500
BALATA.		
JULY 2.—By the *Grenada*=Trinidad:		
Thebaud Brothers		1,500

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—JUNE.

Imports:	POUNDS.	VALUE.
India-rubber	2,880,930	$1,588,979
Gutta-percha	24,600	6,533
Gutta-jelatong (Pontianak)	258,805	8,449
Total.	3,164,425	$1,603,961
Exports:		
India-rubber	33,859	$21,400
Gutta-percha	82,663	54,563
Reclaimed rubber	174,745	24,878
Rubber Scrap Imported	918,536	$54,179

BOSTON ARRIVALS.

	POUNDS.
JUNE 3.—By the *Kansas*=Liverpool:	
Otto G. Mayer & Co.—Africans	8,201
JUNE 8.—By the *Irishman*=Liverpool:	
Reimers & Co.—Africans	3,500
JUNE 21.—By the *Ivernia*=Liverpool:	
Livesey & Co.—Africans	5,281
JUNE 25.—By the *Michigan*=Liverpool:	
Reimers & Co.—Africans	20,654
JUNE 27.—By the *Winfredian*=Liverpool:	
Livesey & Co.—Africans	2,334

	POUNDS.	VALUE.
Total, January	105,946	$69,329
Total, February	109,763	65,290
Total, March	81,489	55,950
Total, April	141,398	90,607
Total, May	53,285	36,126
Total, June	29,376	22,016

[These figures do not include 18,200 pounds African rubber, for Reimers & Co., arrived June 2, by the *Heathmore*, from London.]

GUTTA-PERCHA.

	POUNDS.
JUNE 2.—By the *Heathmore*=London:	
George A. Alden & Co	1,956
JUNE 11.—By the *Bengalia*=Hamburg:	
George A. Alden & Co	4,340
[Value of Gutta-percha, $3585.]	

PHILADELPHIA ARRIVAL.

	POUNDS.
JULY 7.—By the *Belgenland*=Liverpool:	
George Watkinson & Co.—African	22,500

PARA EXPORTS OF INDIA-RUBBER FIRST HALF OF 1900.

IN KILOGRAMS. 100 KILOGRAMS=220 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prüsse & Co.	467,151	101,172	472,783	90,524	1,131,630	1,335,886	326,542	449,076	180,043	2,291,547	3,423,177
Adelbert H. Alden	844,383	143,224	386,477	84,685	1,458,769	494,415	81,885	193,038	34,306	803,644	2,262,413
Frank da Costa & Co.	445,764	83,941	406,075	230,868	1,166,648	329,712	47,328	233,300	177,900	788,240	1,954,888
The Sears Pará Rubber Co.	725,019	106,031	238,572	35,014	1,104,636	—	—	—	—	—	1,104,636
Rudolf Zietz	50,328	17,356	45,676	—	113,360	287,603	50,073	126,080	74,984	538,740	652,100
Denis Crouan	23,970	3,230	26,880	—	54,080	185,033	34,823	45,355	—	265,211	319,291
R. Suarez	10,030	2,720	—	—	12,750	96,877	26,598	26,947	—	150,422	163,172
B. A. Antunes	—	—	—	—	—	58,957	15,957	17,568	9,061	101,543	101,543
Comptoir Coloniale Française	—	—	—	—	—	60,854	6,611	30,761	1,414	99,640	99,640
H. A. Astlett	38,896	6,478	21,372	12,633	79,379	10,161	1,338	4,330	—	15,829	95,208
Kanthack & Co.	6,357	1,139	3,228	17,570	28,304	38,237	9,630	14,741	—	62,608	90,912
Singlehurst, Brocklehurst & Co.	6,344	1,452	244	—	8,040	29,495	4,436	4,548	—	38,479	46,519
Pires, Teixeira & Co.	9,971	—	1,054	—	11,025	—	—	—	—	—	11,025
Sundry small shippers	5,758	363	639	—	6,760	123,020	31,765	31,912	12,528	199,225	205,985
Total	2,633,971	467,106	1,603,010	471,294	5,175,381	3,050,250	636,986	1,177,656	490,236	5,355,128	10,530,509
Total, Jan.–June, 1899	3,475,867	497,917	1,825,055	539,697	6,338,536	1,795,300	275,371	674,704	358,077	3,103,452	9,441,988
Total, Jan.–June, 1898	2,880,595	539,466	1,512,627	590,592	5,523,280	3,025,671	532,549	1,292,071	787,354	5,637,645	11,160,925

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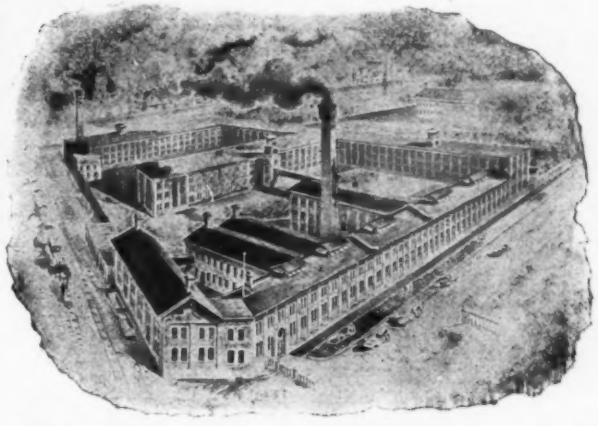

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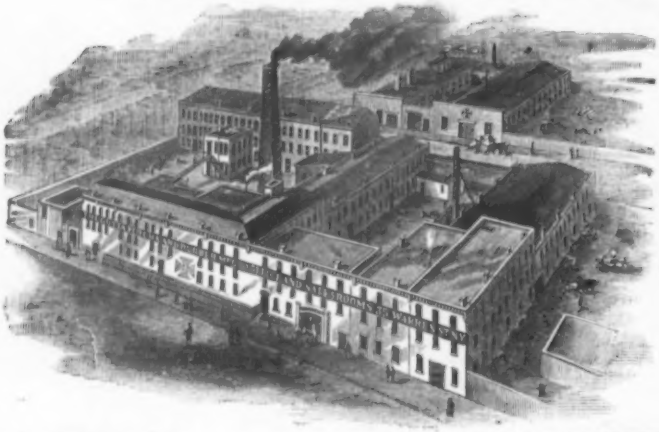

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